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ABSTRACT

In two previous experimental observational studies, the Safe-Playing Kit, a program with empirically proven potential for reducing the risk of pedestrian accidents to preschoolers, was developed. The purpose of the present study was to field test a prototype of the kit in 17 diverse preschools and day care centers located in eight states. Feedback on the process of implementation came from evaluations and suggestions made by preschool teachers, parents, and administrators, as well as through two concept probes employing children's responses to storybook situations, one administered before and one after the program was implemented. Results indicated that most teachers and parents felt the program was successful. In addition, children showed highly significant gains in scores on pretests and posttests following the use of the program. It was concluded that the Safe-Playing Kit can be implemented in a diversity of communities, preschools, day care centers, and families across the country and that the program can be successfully conducted by trained teachers and parents as a part of their everyday activities. Forms of and results from the teacher's survey, as well as versions of the parent surveys, are appended along with a description of methods used and results obtained from the children's responses to storybooks and concept probes. (Author/MP)

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SAFE-PLAYING PROGRAM:

FINAL REPORT ON PROCESS FIELD TEST

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West Boylston Community Nursery School, Worcester, MA
Happy Day Child Care Center, Worcester, MA
Tom Thumb Center, Worcester, MA
Day Care Services, Inc., Franklin, PA
Glendale Unified School District, Glendale, CA

Children's County School for Early Learning, Lomita, CA
Federation Head Start, Carson, CA
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(Prekindergarten East, Delaware and Merrick Schools)
Division of Early Childhood, Cleveland Public Schools, Cleveland, OH
Day Care and Child Development Center of Tidewater, Norfolk, VA
St. Aidan's Child Development Center, (Head Start), Virginia Beach, VA
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J.L.M.

ABSTRACT

The second-leading cause of death of preschool-aged children is pedestrian-vehicle accidents. In two previous experimental observational studies, the authors developed a program (the Safe-Playing Kit) with empirically proved potential for reducing the risk of pedestrian accidents to preschoolers.

The purpose of the present study was to field test the *process* of implementation of a prototype of a Safe-Playing Kit in diverse centers across the country. Seventeen preschools and day-care centers from eight states took part in field testing the program. The Safe-Playing Kit contained both a Classroom Component and a Parent Involvement Component. Feedback on the process of implementation came from evaluation and suggestions by preschool teachers, parents, and administrators and through the administration of two concept probes, one before the program and one after, that measured changes in the children exposed to the Kit.

The results indicate that most teachers felt the program was successful for their schools. Parents also indicated satisfaction with the program. Children who were administered the four storybooks showed highly significant gains in scores between Concept Probe 1 and 2. Thus the field test shows that the Safe-Playing Kit can be implemented among a great diversity of communities, preschools, day-care centers and families across the country and that the program can be successfully conducted by trained teachers and parents as a part of their everyday activities.

The process test also provided insights into ways to improve the Safe-Playing Kit for final distribution. With appropriate revisions,

and wide distribution, the Safe-Playing Kit holds the promise of saving thousands of children from death and injury.

DESCRIPTORS: Pedestrian safety, preschool-aged children, parent training, field tests

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INTRODUCTION

Some 10,000 young children die or are injured in pedestrian-vehicle accidents each year (Vital Statistics, 1977, 1979). Such accidents rank as the second-leading cause of death of preschool-age children; only birth defects kill more children each year.

Most research on pedestrian accidents involving preschoolers has focused on accident profiles (e.g., Read, 1969; Grayson, 1975). Surprisingly, effective countermeasures have not been a frequent topic of research.

Most previous work on countermeasures has emphasized the teaching of street-crossing skills (e.g., Colborne, 1971; Firth, 1973; Nummenmaa and Syvanen, 1974; and Pease and Preston, 1967). These studies drill children with a slogan: "Stop at the curb, look both ways, and . . . walk--don't run--across." The rationale for this approach is that since children do cross the street, they should be taught to cross safely. We have argued that while appealing on the surface, this reasoning may prove impractical after one considers accident circumstances, the pedestrian's task, the developmentally related skills of young children, the proved technology for changing parent-child behavior, and the findings of previous research (Embry and Malfetti, 1980, 1981).

In other studies, we have stated that preschoolers' pedestrian safety would best be served by teaching the children to avoid the street, except when with an adult--or to observe the boundaries of safe play. Those studies, in fact, demonstrated that children can be taught to observe the boundaries of safe play and reduce their independent entries into the street.

In early pilot work, we found that during play children entered the street as many as 25 times per hour--generally without any parental awareness of the event. Two experimental studies were conducted to reduce the rate of entry.

Using a combined package of symbolic modeling for children and group parent training, we found that it was possible to reduce children's rate of entry into the street near their homes by 90% of the baseline rate. This decline was based on observed behavior change of both children and their parents over repeated home visits. By combining measures of traffic density, velocity, and children's rate of entry into the street, we estimated that risk of a pedestrian accident was reduced by more than 90%. These effects proved to hold over time. The procedures, results, and discussion emerging from these studies are detailed elsewhere (Embry and Malfetti, 1980, 1981; Embry, Note 1, Note 2).

The safe-playing studies indicated the potential effectiveness of a program to teach children not to play in the street--but did not test the feasibility of widespread distribution of such a program. Procedures created in laboratory environments--despite attempts to promote realism--may fail when used in the "real world." Principally, the failure comes not from the shortcomings of the techniques per se but from inappropriate or inadequate application of the tested technology by the ultimate users.

It was expected that one of the results of the Safe-Playing Project would be an educational program that could be distributed nationally, particularly to preschools and day-care centers. The project was in fact funded with that intent. The purpose of the present study was to construct a prototype of a Safe-Playing Kit and to field test the process of its implementation in diverse centers across the country.

The present study, unlike our previous studies, was not intended to document behavior change in the children but to clarify and refine the use of the prototype Safe-Playing Kit in the every day environment. This was to be accomplished through evaluations and suggestions by pre-school teachers, parents and administrators who participated in the field test of the prototype Safe-Playing Kit, and through concept probes to measure change in the children exposed to the Kit.

METHOD

Subjects and Settings

A "process" field test requires a cross section of potential users and settings. Thus, a concerted effort was made to recruit participants from geographically diverse preschools and day-care centers.

The AAA Foundation for Traffic Safety invited AAA clubs in the 48 contiguous states to participate in the field test. The clubs in turn arranged for 17 preschools and day-centers from eight states to take part. (See Table I.)

Each school was asked to have a minimum of 20 children and their families participate in the field test, but some fell short of this number. The day-care centers and preschools showed considerable diversity, ranging from Head Start Centers, to church-affiliated agencies, to private organizations with differing educational philosophies, such as Montessori, behavioral, and "eclectic."

Materials

Figure 1 shows two pictures of the prototype Safe-Playing Kit (one of the outside and one of the contents) which was the "tool chest" for this field test. All necessary materials were housed in the steel

TABLE I

PARTICIPATING SCHOOLS BY STATE, SAMPLE SIZE AND POPULATION DENSITY

State	Sample Size	Population Density
California		
Glendale/Cloud Child Development Center (Glendale)	20	Urban
Colorado		
Mt. Zion Lutheran Preschool (Castle Rock)	20	Urban
Kansas		
Educare, Kansas University Daycare (Lawrence)	13	Suburban
Massachusetts		
Happy Day Child Care Center (Worcester)	15	Suburban
Hardwick Coop Preschool (Worcester)	12	Rural
Tom Thumb Center (Worcester)	13	Suburban
West Boylston Community School (Worcester)	15	Suburban
New York		
Early Childhood School (New York City)	16	Urban
Delaware Annex (Syracuse)	12	Urban
Fraser (Syracuse)	15	Urban
Merrick (Syracuse)	13	Urban
Prekindergarten East (Syracuse)	18	Urban
Ohio		
East Clark (Cleveland)	19	Urban
M. Bethune (Cleveland)	15	Urban
Tennessee		
Sam E. Hill Nursery School (Knoxville)	20	Urban
Virginia		
Day Care and Child Development Center (Tidewater)	11	Urban
St. Aidan's Child Development Center (Norfolk and Virginia Beach)	7	Urban
Total	254	

Figure 1

box pictured which is approximately 15 by 15 inches.

Figure 2 presents a diagram of the significant parts of the Safe-Playing Kit, which had two major divisions: (1) a Classroom Component,

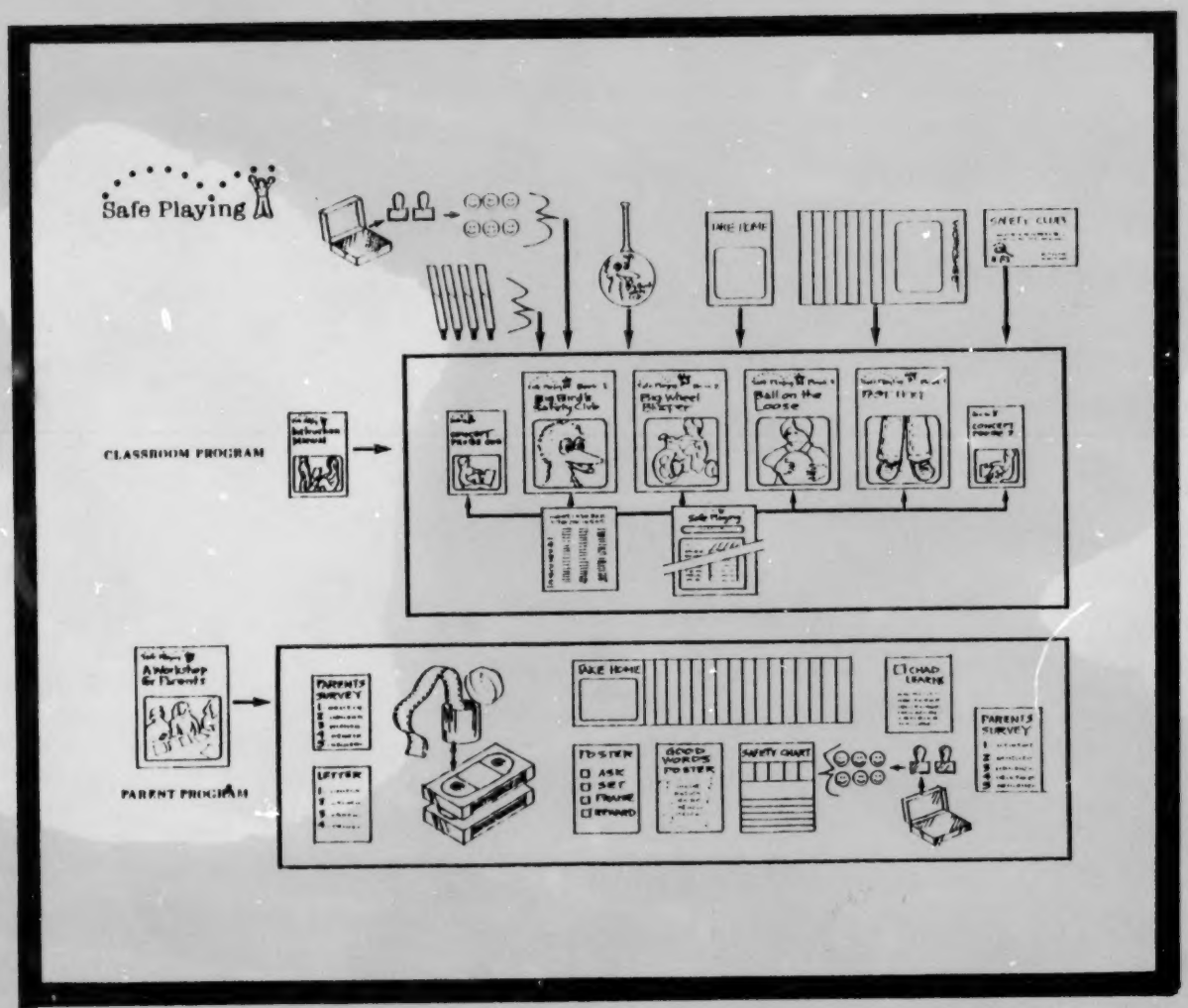

Figure 2

and (2) a Parent Involvement Component. The total package was derived from the materials used in the two previous studies (Embry and Malfetti, 1980, 1981).

The two components had distinct purposes. The Classroom Component was designed to offer symbolic models for children to follow in imitating

safe behavior; it was meant also to teach key concepts related to playing safely, to provide opportunity for behavioral rehearsal with children, and to establish a "bridge" from classroom to parent participation. The Parent Involvement Component was to teach parents how to define safe boundaries for their children, how to reward safe behavior, and how to use Time Out (a punishment procedure) to correct unsafe play habits.

The Classroom Component had the following parts:

1. A Teacher's Manual.

This handbook gave an overview of the Safe-Playing Kit, offered a history of its development and reasons for its approach, and detailed the logistics for classroom use.

2. Concept Probe 1.

A small loose-leaf binder containing 20 pairs of photographs depicting children playing safely and unsafely. Using a one-on-one procedure, each child was asked to "touch the picture of the child playing safely." The Concept Probe was to test children's comprehension of safety play concepts immediately prior to reading the storybooks.

3. Storybook 1: Big Bird Teaches Safe Playing.

This introduced the child to the idea of a book about one's own self (the teacher wrote in the listening child's name with an erasable marker), to key words (*safe, dangerous, sidewalk, grass, ground,* and *street*), to answering questions about the storybook, and to the possibility of being rewarded for safe play.

4. Storybook 2: Bigwheel Blooper.

In this book, the child learned to ride a bigwheel safely. The storybook revealed both material and social consequences of

having the bigwheel in the street: the front wheel gets broken, and the child is broken-hearted. The book also showed some rewards for safe play: the teacher praises the child for safe play and awards him a Big Bird Safety Button. The book ended with a review.

5. Storybook 3: Ball on the Loose.

In this book the child played with a "talking" ball that escapes into the street. The child disobeyed mother's instructions, and mother made the child sit on the steps (the "Sit and Watch" technique described later in the Safe-Playing Filmstrip of the Parent Involvement Component).

6. Storybook 4: Fast Feet.

Here Big Bird told the child, "Never put your feet in the street without a big person holding your hand." The child learned about the danger of the street, and a father figure rewarded the child for asking help to cross the street.

7. Concept Probe 2.

This loose-leaf binder had 20 pairs of safe/unsafe pictures similar to those shown in Concept Probe 1. It was designed to assess the children's grasp of the safe-playing concepts presented in class immediately after they had heard all four storybooks.

8. Individual Progress Card.

A special card (to be copied) enabled teachers to record children's responses to Concept Probes and Storybooks (page 132).

9. Classroom Progress Poster.

Two 12 by 20 inch posters were included. They contained spaces for writing in the names of 20 children and places to check off

the separate parts of the Program on completion. The poster was to enable teachers to monitor overall classroom progress.

10. Safe-Playing "Graduation" Certificate.

Each Kit contained a master, to be copied, of a graduation certificate for children completing the Program.

11. Big Bird Safety Club Button.

Each Kit contained 20 buttons picturing Big Bird. Designed to facilitate imitation of safe play, the buttons were featured prominently in the storybooks.

12. Miscellaneous Items.

Some other items included in the Kit were: a marker set for writing children's names in the storybooks, special erasers, optional worksheets for completion in the classroom, and rubber stamps and stickers to be used in both classroom and home for rewards.

The Parent Involvement Component consisted of the following:

1. Workshop Leader's Manual.

A guide to conducting a workshop for parents on teaching safe play. The manual contained: suggestions on how to prepare for the workshops and increase parental attendance; a set of workshop outlines to help the leader; and a script of the filmstrip.

2. Safe-Playing Filmstrip.

Packaged with the Kit was a 35 mm. filmstrip, a tool for teaching parents. It featured first-person narrations by two mothers who had "graduated" from a parents' workshop on safe playing. The first mother shared with the listener her child's problems near

traffic and told how she had to find a better way to teach her boy to stay out of the street. She told about going to the workshop and what she learned. Another mother modeled what was learned--how to increase a child's safe play through encouragement and praise, and decrease unsafe play by making a child go to Time Out (or Sit and Watch as it is described in the filmstrip). A third mother modeled the use of the procedure in parking lots. The first mother provided narrative continuity from start to finish and shared her reactions to the procedures. The filmstrip was set to stop every two to four minutes for discussion.

3. Master of Take-Home Storybook.

The Kit contained a complete set of master copies to be duplicated in a take-home book for parents' use in teaching children about safe-play. The book, essentially a form of behavioral rehearsal, featured androgynous characters. This allowed the parents to apply personalized details (e.g., names) to their own children.

4. Master of Safe-Playing Poster.

An original for copying focused on the seven main steps for adapting the program for home use. Parents were advised to put up the poster at home.

5. Other Workshop Materials.

One master copy had suggested words to praise a child with for safe play; another was a safety chart with stickers for use by parents to record safe play; and another a short story about a child's success with the program.

(Persons interested in inspecting the prototype Kit should contact Dr. Embry.)

Data Collection

Three types of data were collected in the course of the field test: (1) pre and post surveys of parents, (2) surveys of teachers' reactions to the Kit, and (3) children's responses to the concept probes and storybooks. A broad cross section of responses was thus gathered from potential users and consumers.

Surveys of Parents. Approximately 150 parents of children who participated in the field test of the Safe Playing Program were asked to complete a survey form shortly before the start of the Program, and to fill out a second survey form soon after its completion. Appendix A contains pre and post parent survey forms and the results of their administration. Not all parents completed all questions. Further, some frequency counts reflect multiple answers to one question. The pre-survey asked the usual location of the child's outdoor play, favorite outdoor activities, distance from nearest street, traffic density near home, number of times child goes into the street, parent's rules for traffic, and child's bad habits around traffic. Most of the questions were open-ended, because previous experience had indicated that lower socio-economic status parents would do better in furnishing answers to questions in that format.

The post-survey for parents addressed such other issues as: helpfulness of the Program, suggestions for improvement, number of "Safe Play" stickers used by parent, number of times Safety Chart was used, number of times child broke safety rules, how many times the Sit and Watch punishment was applied for rule infractions, and parental estimates of how often child went into the street. Many of the questions were designed to determine to what degree the parents used the workshop techniques correctly. Each participating school was responsible for sending

out parents' surveys.

Teacher's Survey. Appendix B contains a sample of the teacher's survey form (with a cover letter) and the results of its administration. The form was filled out by 30 teachers. Not all teachers completed all questions. In some cases, frequency counts reflect multiple answers to one question. This survey was comprehensive, with over 100 questions, touching on clarity of manuals, difficulties with logistics, fidelity of implementation of classroom components, successes and difficulties with the materials for children, fidelity of implementation of the parents' workshops, and suggestions for improvement of the Program. The survey was sent to participating schools shortly after their completion of the Program.

Children's Responses to Storybooks and Concept Probes. Appendix C gives full details of children's responses. It includes a copy of the Individual Progress Card (page 132) on which teachers recorded children's correct responses to the Concept Probes and storybook questions. The 20 pairs of safe/unsafe pictures in the Concept Probes measured children's understanding of the boundaries of safe play. The questions at the bottom of each page of the storybooks measured children's aural comprehension of the safety instructions; each storybook had about 20 questions. Overall, these data provided some index of children's reactions to the materials, and might prove helpful in any final revisions of the Kit.

Experimental Procedures

Standardized procedures were followed in the conduct of the field test, although no experimental design was implemented because of the process evaluation orientation of the field test.

First, Safe-Playing Kits were shipped to the local AAA office that had agreed to sponsor a field test.

Second, an in-service workshop was scheduled in the communities running the test. Participating schools and day-care centers were invited to attend. The workshop was conducted by Dr. Embry and Executive Director Yaksich of the AAA Foundation for Traffic Safety. Each workshop followed essentially the same sequence.

Third, each school filled out an action plan for operating the Safe-Playing Program.

Fourth, participating schools implemented the program locally. Some schools ran the Program in the Spring of 1981, others during the Summer, and a smaller number in the Fall of that year.

Fifth, the authors, with the cooperation of sponsoring AAA clubs, secured completed data as each school finished the Program.

RESULTS

The results of the field test are summarized here. More details of the three types of data collected appear in Appendices A, B and C.

Parents' Surveys. In the preworkshop survey (Appendix A, pages 33-35), parents indicated the following:

1. About 60% of the children played outdoors in their own yard, and another 12% played on the sidewalk. Only 10% usually played in some kind of park.
2. Riding a wheeled toy was the favorite activity of young children playing outdoors.
3. The front doors of 54% of the children were within 40 feet of the street.

4. Degrees of traffic density on nearby streets was evenly distributed across participating families.

5. Sixty-nine percent of the parents revealed that their children played outdoors four hours or fewer per day.

6. Sixty-six percent of the parents answered that during the course of a week their children never went into the street without permission.

7. Fifty-five percent put some form of prohibition on their children's entering the street.

8. Over 60% of the parents used some form of oral instruction or nagging as the primary means of traffic safety instruction. Only 1% reported rewarding children for safe play.

9. The most common "bad" habit was running across the street without looking. About 6% reported no bad habits.

On the post workshop surveys (Appendix A, pages 38-43), parents reported some of the following:

1. On a five-point scale of helpfulness, just over 49% thought the Safe-Playing Program "Very Helpful." About the same number said the Program taught children "Safe-Playing" concepts. The most commonly cited reason for its not being helpful (3.6% of parents) was that the family lived in a rural area of few streets and therefore little threat.

2. In response to the question about what should be changed in the Program, 76% said "nothing" or made no response.

3. Sixty-four percent of the parents indicated that they gave out 1 to 20 stickers for safe play, and 56% said the children

were very excited about earning them.

4. Fifty-three percent used from one to four safety charts.

5. Forty-four percent of the parents indicated that their children had not broken any of the safety rules since the workshop.

6. Of those families whose children broke the rules, 33% reported applying Sit and Watch (Time Out) for each infraction.

7. After the workshop, 55% of the parents reported praising their children one to four times for playing safely on the previous day.

8. A trifle over 85% of the parents saw signs of positive change in children's behavior after the Safe-Playing Program.

Teacher's Survey. Responses from teachers were a rich source of feedback. Appendix B (pages 55-81) presents the complete results of those surveys. A summary of teachers' comments follows:

1. The manuals were perceived as clearly written. Some suggested that the manual be printed in a modular form. Several suggested that key parts of the workshop script be highlighted.

2. Comments on classroom organization revealed several good insights. The amount of copying of materials needs to be reduced. Most teachers thought this could be done by eliminating the optional worksheets, combining the Classroom Progress Poster with the Individual Progress Cards, and having the take-home materials preprinted and available for purchase.

3. Slightly less than 60% saw the Concept Probes as necessary in the final Kit, and most had comments about specific pictures

in them. A revised Concept Probe should include a few photos of large urban settings such as New York City.

4. Most teachers reported reading the storybooks to children one-on-one, but found the task time consuming and difficult to incorporate into their routines. About 70% of them thought that the children accepted the androgynous character as their own selves. Although several individual observations should be incorporated in final revisions, there were few consistent suggestions for changes in the storybooks.

5. With very young or language-delayed children, teachers did not demand as much in the way of oral responses to the questions imbedded in the storybooks.

6. To promote safety, about 30% of the teachers created some additional activities for the children.

7. Most schcols had only one parent workshop, usually during school hours--a fact that accounts for the poor turnout of fathers, most of whom could come only in the evening.

8. Schools did not take many of the suggestions for promoting parent involvement.

9. During the workshops, leaders showed some hesitance in

- asking parents, before the filmstrip, to state their rules about traffic safety;
- asking them to fill in some of the boundaries for their own children in the take-home book;
- having parents discuss possible rewards for safe playing;
- passing around a sheet of paper for parents to sign up for following the program at home;

- and, amazingly, handing out the safety charts for home use. Many of the items were essential for parent implementation of the Program at home.

10. Teachers liked the filmstrip, and 90% of them thought the questions and stop points in the filmstrip stimulated parental discussion.

11. About 70% of the teachers revealed that almost all of the parents participated and were excited by the workshop.

12. Teachers thought parents were far less favorable toward the negative Sit and Watch techniques than toward using stickers as awards.

13. The major suggestion by the teachers for future use was the elimination of one-on-one reading of the storybooks.

14. Most teachers (more than 70%) felt that the Program was successful or moderately successful for their schools.

15. The most common suggestion for the in-service workshop: more time should be devoted to questions and answers.

Children's Responses to Storybooks and Concept Probes. Appendix C (pages 103-128) contains the complete summary of children's responses. Highlights of those results follow:

1. The total sample of children who were administered the four storybooks ($N = 207$) showed a significant gain ($p < .0005$) in scores between Concept Probe 1 and 2. Significant gains ($p < .0005$) were also observed for subgroups based on Age (two-three year olds and four year olds), Population Density (urban), Teacher Fidelity (low, medium, high) and Parent Fidelity (low, medium,

high). Gains for age five-plus and for suburban/rural subgroups were positive, but not statistically significant. These results support the value of the Program for learning safe playing concepts, especially for the three and four-year olds, the population for which it was targeted.

2. Age of the children ranged from two to five-plus years and was related to gains between Concept Probes 1 and 2. The mean gains (20 correct responses were possible on each probe) for the age groups compared were: Age two, three--3.78; Age four--2.38; Age five-plus--0.31. The difference between these means was statistically significant ($p < .001$). The small gain for those five and over is due to their high mean score on Concept Probe 1 (18.58 out of a possible 20). Significant differences ($p < .01$) between age groups were also found on each of the four storybooks. On the storybooks there was a direct relationship between age and mean score--the older the children, the higher their mean score. Said another way, the older children had higher indexes of aural comprehension of the storybook messages.

3. Urban children had significantly ($p < .001$) larger mean gains between Concept Probes 1 and 2 than suburban/rural children. The mean gains were 2.96 and .41, respectively, suggesting that the Program is more effective for urban than for suburban/rural children. However, the means on Concept Probe 2 for the two groups were 17.87 and 17.98, respectively, indicating that both achieved a high level of understanding of safe playing concepts by the end of the experience. Although there were statistically significant differences between the groups on Storybooks 1 and 2

(not on Storybooks 3 and 4), the differences in means were quite small (less than one score point).

4. Subgroups based on Teacher Fidelity Indices were derived from the degree to which the teacher followed recommended procedures in administering the Safe Playing Program--low, medium, or high. Differences in mean gains between Concept Probes 1 and 2 for low, medium, and high subgroups were not statistically significant, indicating that children's gains did not depend on Teacher Fidelity. However, mean scores on Storybooks 1, 2, and 4 differed significantly ($p < .001$) among the three subgroups, with the medium group having a somewhat larger mean than the low and high groups on each of these Storybooks.

4. Subgroups of children based on Parent Fidelity Indices were determined by the degree to which parents followed recommended procedures for the home portion of the Safe Playing Program--low, medium, or high. Differences between these subgroups in mean gains between Concept Probes 1 and 2 were not statistically significant; thus, children gained about equally regardless of Parent Fidelity. Although differences on Storybook scores between Parent Fidelity subgroups were statistically significant only for Storybooks 1 ($p < .05$) and 4 ($p < .01$), mean scores on each of the four Storybooks were positively related to Parent Fidelity, i.e., as Parent Fidelity increased, the Storybook mean increased.

DISCUSSION

The Safe-Playing Program has now gone through three phases of research and development. The first involved several years of research previously conducted by Dr. Dennis Embry and his principal colleague, Dr. Lynne Embry, on the design of instructional materials for young children and for parent-training. That laboratory and field-based research formed the basis of a pilot program to teach pedestrian safety to preschoolers. The second phase consisted of two experimental studies by the authors of this report. Those studies tested the effects of the pilot program on the behavior of children and their parents, and its impact on the reduction of risk of pedestrian accidents to preschoolers. The third phase produced the present study, a field test of a prototype Safe-Playing Kit. As we have said, the purpose of this test was not to evaluate behavior change but to determine whether the prototype Kit could be put to good use by the intended consumers and what changes might be necessary to insure more effective implementation. Few educational programs, especially in traffic safety education, have such extensive research and development histories.

The results of the present field test establish to our satisfaction that the Safe-Playing Kit can be implemented among a great diversity of communities, preschools, day-care centers and families across the country, and that the program can be successfully conducted by trained teachers and parents as part of their everyday activities. It also suggests that a number of improvements can be made in the final version of the Kit.

Kit Integration

As now constructed, the Kit has a high degree of integration, yet the field test revealed a number of ways to improve it:

1. The take-home book needs to be mentioned and its contents echoed in the classroom storybooks.
2. The stickers and sticker chart should be referred to in the classroom books.
3. A parking lot episode should be added to the classroom books, much like that shown in the filmstrip.
4. Children crossing the street while holding the hand of an adult should be depicted answering a request to "tell me when it's safe to cross."
5. Some behavioral prompts might be added to both the classroom and take-home books that show the child reminding the parent about certain aspects of the Program.
6. Questions and reminders to promote parental adoption of the program should be included as "questions" at stop points in the filmstrip. This would prompt the workshop leader to cover those points, such as: setting individual family boundaries, defining rewards for the child, selecting Sit and Watch places, and setting a time for conducting the Program at home.
7. Each Kit ought to contain some kind of brief (five to ten minute) filmstrip that can double as both publicity and training overview for teachers and workshop leaders.
8. Obviously, in the final packaging a steel box will not be necessary; plastic or cardboard will do.

Implementation Manual

Teachers' comments yielded some ideas for changes in the manual:

1. The manual might be bound in a modular format--namely the classroom component, the parent involvement component, and the filmstrip script (in Spanish and English).
2. The manual should include toward the front a diagram or picture of the components of the Kit.
3. The manual should include suggested timelines for implementing the program.
4. Possible adaptations for different settings should be mentioned. Particular emphasis should be placed on what to do if (a) some parents don't participate, and (b) one-on-one reading of storybooks is out of the question.
5. More discussion should be given to ways to persuade parents to join in the program and somewhat less to the mechanics of reading the storybooks.

Classroom Materials: Storybooks

A major change in the storybooks emerged, not from the field test but from continuing negotiations with Children's Television Workshop. The Workshop gave permission to use the Sesame Street Muppet characters for the research aspects and process field test of the prototype Kit, but denied permission for the use of the characters in the final production version of the Safe-Playing Kit to be distributed nationwide. Thus illustrations in the storybooks will be redrawn, substituting a "Safety Bear" and other commonly recognized animal characters for those in the prototype Kit.

Five other general comments (a synthesis of remarks and observations by the authors, teachers and other interested persons at the field test sites) should be made about the storybooks:

1. Special care should be taken in the printing to insure that the flesh tone of the child appears ethnically ambiguous;
2. one or more of the books ought to *urge* parents to get used to asking their children to "tell me when it's safe to cross the street";
3. one or more should show the character and the parent using the take-home books and the parent setting boundaries;
4. at least one book should model good behavior in parking lots--something shown in the filmstrip; and
5. the books ought to be printed on coated stock that will take markers.

Comments about specific storybooks follow:

1. Book 1. The instructions for teachers should mention that adults reading to children should feel free to substitute the word *dirt* for *ground* and *road* for *street* if more appropriate in the area. The black child shown on page 5 should be moved to another page, because the juxtaposition of an obviously black child against the androgynous character can cause some confusion for a few black children.
2. Book 2. The instructions for teachers should mention that some people may not want their children to ride bigwheels on the grass. It should be made clear that this attitude is not a rule about safety but a personal preference which the field test proves to be not widespread. In conclusion, the instructions

should point out that the purpose of the book is to teach where it is *safe* to play--the grass is such a place. The parents are brought in so that additional rules or boundaries can be explained on a child-by-child basis.

The text of the story might emphasize that the child is just *wearing* a safety button and earning stickers for safe play, rather than *earning* the button for safe play.

3. Book 3. The most common problem, as cited by many teachers, was not knowing what an "owie" was. Perhaps the word *hurt* should be used instead. The story line should be changed to have the child actually disobey the parent rather than trip. On page 21, the words, "you didn't listen" should be substituted for "you disobeyed me." On page 39, the child should be shown riding on the sidewalk.

4. Book 4. The instructions for teachers should mention why the word *hurt* was used instead of *smashed* for describing what happened to the trash can. *Hurt* was chosen to assist the children in identifying with what happened to the trash can. The instructions should make clear that the lesson is not about trash cans per se but about following parental instructions and the consequences of entering the street. Instead of earning a button, the child should get stickers from the father figure. Some of the types of praise words used in Book 4 (e.g., "You're doing a good job listening") should appear in earlier books.

Classroom Materials: Concept Probes

The final version of the Kit should stress that schools can use the Concept Probes as either a teaching tool or as an assessment tool or both. The instructions for the Concept Probes should state that by recording children's responses they can be used as a learning assessment tool (although some schools may feel that such assessment is too time consuming or simply unnecessary). The directions should note that descriptive positive feedback is the most important component of the Concept Probes.

The directions should state that the Concept Probes may be difficult to use with children three years old and under, unless such children are reasonably articulate.

In the final version of the Kit, one could probably get by with only one Concept Probe, in which case it should be given at the end of the Program. While the score will not measure a child's gain from the Program, it will show how much the children know about safe-playing concepts at the completion of the Program.

The pictures ought to include more obviously urban scenes. (The Automobile Club of New York has generously made such photos available for the final Kit.) Teachers' comments single out certain pictures (noted in Appendix B, pages 61-62) for critique and modification if used in the final version.

Appendix C contains illustrations of analyses and information that might be helpful to schools wishing to use Concept Probes 1 and 2 for program evaluation and improvement.

Classroom Materials: Miscellaneous Items

The field test made clear the fate of certain items in the prototypic Kit. Some specific recommendations:

1. The optional worksheets can be easily eliminated; few schools used them.

2. The "Big Bird Safety Buttons" will have to be revised because of the Children's Television Workshop decision described earlier, and the buttons will have to be less expensive. Probably the cheapest way to make them, and make them durable, is to print them on Tyvek, a spun-bonded polypropolyene, extremely strong and waterproof, that can be written on with magic markers (and which is readily available). Such buttons will likely cost about a penny each.

3. The Classroom Progress Poster, in comparison with the Individual Progress Card, is probably a more viable way for preschools to keep track of the children. It might be modified to allow teachers to note whether a child needed additional work on a particular book or on the Concept Probes. The Implementation Manual should contain a usable Individual Progress Card, if such record keeping were viewed as important. The Individual Progress Card should not be presented as "required."

4. The rubber stamps will have to be changed to show non-Sesame Street characters, but should continue to be included in the Kit along with one package of Avery dots.

5. There need be only one permanent marker in the final Kit--for the Classroom Progress Poster.

Parents' Workshop: Handouts

Each participating school did a good job of distributing the Take-Home storybook, yet some of the same schools failed to distribute the safety charts, the 7-Step Poster, Good Words for Good Kids poster, and the stickers. The omission of these items would make it difficult for the parents to conduct the full program at home. The apparent remedy would be to include these other items in the Take-Home Book.

In the final version of the Kit, it probably makes sense to provide the copy masters for take-home materials plus some 50 preprinted copies of the materials. The preprinted materials ought to be manufactured cheaply (newsprint, saddle stitched); this would enable many schools to order the preprinted versions more cheaply than they could reproduce the take-home materials.

The first few pages of the Take-Home Book should be redesigned to coordinate closely with the questions posed in the filmstrip. For example, the filmstrip ought to say in one of its "stop" frames: "Write in your boundaries of safe play on page 3 of the Take-Home Book. Then, share your boundaries with other parents in the workshop." Such a practice will insure a higher fidelity to the intent of the program. This logic should be carried out all the way through the Take-Home Book and the filmstrip, focusing on the eight basic steps for implementing the Program at home.

Other minor changes should be made in the Take-Home Book--specifically, where to buy extra stickers (e.g., greeting-card shops like Hallmark Cards), and what parents can do if the Program fails with the child. The book should include a first-person vignette on a parent who at first disliked the idea of the timer but then learned its importance

to her child. There should also be a first-person vignette by a parent who at first favored spanking but then found that it didn't work or could have a dangerous outcome--viz., kids running into the street to avoid spanking.

For Spanish-speaking families the final Kit might contain (at extra expense) a Spanish translation of the Take-Home Book and the filmstrip.

Parents' Workshop: The Filmstrip

The filmstrip worked well in the field test, and the test revealed a number of changes that should be made in a final copy.

1. In the original, the mother of the second child was to have been Oriental. Unfortunately, she became ill on the day for shooting pictures, and another person had to be substituted. An Oriental woman should be used in the final copy, because both white and black parents can identify with Orientals.
2. A more ethnically ambiguous mother and child should be chosen for the first parent-child pair in the filmstrip.
3. One of the settings for a parent-child pair should be a garden apartment--a fairly common dwelling across the country.
4. In a few places, the dialogue needs to be changed--e.g., "greasing the 'safe' wheel."
5. The questions on frame #58 should be changed to something like: "Write down your rules about traffic safety for your child on page 3 of the Take-Home Book. Please share those with others in the workshop." The lead-in to frame #58 will need to be changed to accord with the statement.

6. Somewhere around frame #89 a stop point should be inserted that requires parents to define their own boundaries of safe play and to discuss them with others in the workshop.

7. Frame #105 should be changed to ask parents to do a behavioral rehearsal for Sit and Watch.

8. The child need not be shown earning each of the five stickers, just the first, second and the final one.

9. The Sit and Watch episode should show an uncooperative child and the parent coping with the situation.

10. Frame #142 ought to be changed so that the narrator comments directly on the effectiveness of the Program. A few slides might be included of the child playing safely, sitting quietly in Sit and Watch, getting stickers, and holding a parental hand on crossing the street. These would function as a brief review of the eight steps of the program.

Summary

Two experimental, observational studies demonstrate that the Safe-Playing Program has empirically proved potential for reducing the risk of pedestrian accidents to preschool-age children. The process field test, reported here, demonstrates that the Safe-Playing Program can be conducted in the everyday environment of preschools and day-care centers, and that children exposed to it gain significantly in terms of their understanding of safe playing concepts. The process field test has also provided many insights into ways to improve the Safe-Playing Kit for final distribution. With appropriate revisions and wide distribution, the Safe-Playing Program holds the promise of saving thousands of young children from death or injury each year.

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APPENDIX A

PRE AND POST SURVEYS OF PARENTS: FORMS AND RESULTS

Presurvey Form*

1. When at home, where does your child usually play outdoors?
2. What are your child's favorite activities when playing outdoors?
3. About how many feet is the main door of your home to the nearest street? (Check one.)

   0-20 feet _____
   21-40 feet _____
   41-60 feet _____
   over 60 feet _____

4. How much traffic is there on that street outside your main door? (Check one.)

   1 (little or no traffic) _____
   2 _____
   3 _____
   4 _____
   5 (constant traffic) _____

5. At this time of year, about how much time does your child spend per day playing outdoors? (Check one.)

   1-2 hours _____
   2-3 hours _____
   3-4 hours _____
   over 4 hours _____
   Just about all day _____

6. Over a week's time, while playing outdoors, how often does your child go into the street without your permission? (Check one.)

   never _____
   1 or 2 times _____
   3 times _____
   _____ If more than 3, fill in the number of times.

7. Do you have any rules about the street for your child? (Check one.)

   Yes _____
   No _____
   If you checked "Yes," what are they?

8. If "Yes" to question 7, what have you done so far to teach those rules to your child?
9. What, if any, bad habits does your child have near streets and traffic?

*Condensed from the actual three-page form.

Results of Presurvey Form

1. When at home, where does your child usually play outdoors?	Frequency	Percentage
Yard at own house	114	57.6
Sidewalk	24	12.1
Park or play area	19	9.6
Yes [misinterpreted question]	15	7.6
Driveway or garage	12	6.1
Friend's house	11	5.5
Answer left blank	2	1.0
Street	1	0.5
	198	100.0

2. What are your child's favorite activities when playing outdoors?		
Riding bikes/riding toys	83	28.2
Swinging from things	42	14.3
Playing ball	40	13.6
Playing in the sandbox	31	10.5
Digging	21	7.1
Playing with small toys	16	5.4
Running	15	5.1
Playing with other children	14	4.8
Skating	11	3.7
Playing with pets	9	3.1
Water playing	7	2.4
Tree climbing	4	1.4
Using playground equipment	1	0.3
	294	100.0

3. About how many feet is the main door of your home to the nearest street?		
0-20 feet	53	34.4
21-40 feet	31	20.1
41-60 feet	21	13.6
Over 60 feet	28	18.3
Answer left blank	21	13.6
	154	100.0

4. How much traffic is there on that street outside your main door?		
1 (little or no traffic)	36	22.9
2	28	17.8
3	30	19.1
4	24	15.3
5 (constant traffic)	37	23.6
Answer left blank	2	1.3
	157	100.0

5. At this time of year, about how much time does your child spend per day playing outdoors?

	Frequency	Percentage
1-2 hours	33	22.4
2-3 hours	29	19.7
3-4 hours	40	27.3
Over 4 hours	33	22.4
Just about all day	9	6.1
Answer left blank	2	1.4
Answer given as a %	1	0.7
	147	100.0

6. Over a week's time, while playing outdoors, how often does your child go into the street without your permission?

Never (or 0)	102	65.8
1 or 2 times	21	13.5
Seldom	14	9.0
3 times	4	2.6
5 times	4	2.6
Answer left blank	3	1.9
4 times	3	1.9
9 times	1	0.7
Almost never	1	0.7
Once a month	1	0.7
Often	1	0.6
	155	100.0

7. Do you have any rules about the street for your child? If "Yes," what are they?

Don't go near the street	57	27.0
Don't cross street without an adult	51	24.2
Don't cross street without looking both ways	37	17.5
Don't leave defined property boundaries	24	11.3
Don't cross street without permission	11	5.2
Don't go in street after ball; ask adult to get it	8	3.9
Cross only with green light	7	3.3
Answer left blank or "no rules"	5	2.4
Don't ride bikes across street--walk them	5	2.4
Walk when crossing; don't run	5	2.4
Child is allowed to cross by own self	1	0.4
	211	100.0

8. What have you done so far to teach those rules to your child?

	Frequency	Percentage
Taught child about street dangers	41	23.6
Practiced rules with child	41	23.6
Reminded child of rules orally	35	20.1
Supervised child	13	7.5
Spanked child	11	6.3
Sent child inside if child broke rules	8	4.6
Answer left blank	7	4.0
Took away privileges or toys if child broke rules	6	3.4
"Punished" child if child broke rules (punished not further defined)	5	2.9
Rewarded child for obeying	2	1.1
Child knows consequences as another child in family got hurt by car	2	1.1
Child just knows how to be safe	1	0.6
Parent doesn't allow child to go in street	1	0.6
Yes [misinterpreted question]	1	0.6
	174	100.0

9. What, if any, bad habits does your child have near streets and traffic?

Runs across street without looking; doesn't pay attention when crossing	44	29.3
None	35	23.3
Plays on edge of curb or edge of road	17	11.3
Answer left blank	11	7.4
Follows older children into street	8	5.3
Darts away from adult into street	7	4.7
Careless when riding toy or bike	6	4.0
Runs when crossing street	6	4.0
Runs into street after ball	5	3.3
Careless in parking lot	3	2.0
Doesn't understand that cars can hurt him	3	2.0
Careless getting out of car	2	1.3
Doesn't want to hold adult's hand	1	0.7
Throws rocks at cars	1	0.7
Plays out of parent's sight sometimes	1	0.7
	150	100.0

Postsurvey Form*

1. How helpful was the Safe-Playing Program to you and your child? (Check one.)

1 (Very helpful)	_____
2	_____
3	_____
4	_____
5 (Not at all helpful)	_____

Please explain why it *was* or *wasn't* helpful.

2. What did you really like about the Program?

3. What should be changed in the Safe-Playing Program?

4. Since the Parents' Workshop, about how many stickers have you given your child for playing safely? (Check one.)

0	_____
Less than 10	_____
11-20	_____
21-30	_____
31-40	_____
All of them	_____

5. How excited was your child about earning the stickers? (Check one.)

1 (not at all excited)	_____
2	_____
3	_____
4	_____
5 (very excited)	_____

6a. About how many times did you use the Safety Chart? (Check one.)

0	_____
1	_____
2	_____
3	_____
4	_____
5 and over	_____

6b. If you used the Safety Chart, what did your child most like working for?

*Condensed from the actual six-page survey.

7a. Since the workshop, how many times has your child broken your rules for playing safely? (Check one.)

0 _____
1 _____
2 _____
3 _____
_____ If more than 3, fill in the number of times.

7b. If your child did break those rules, how often did you use Sit and Watch (SW) for unsafe behavior?

7c. If there were times when your child was unsafe and you didn't use SW, why did you choose not to use it?

7d. What, if any problems, did you have using SW? How did you fix those problems?

8. About how long did your child play outdoors the last time he or she was outdoors while you were home? (Check one.)

Less than 1 hour _____
1 hour _____
2 hours _____
3 hours _____
Over 4 hours _____
All afternoon _____
Just about all day _____

9. During that time your child was playing outdoors, how often do you recall telling your child that he or she was playing safely?

10. Over a week's time while playing outdoors, how often does your child go into the street without your permission?

11. From your own view, since the Safe-Playing Program, how has your child's behavior changed while playing near traffic?

12. At this time of year, about how much time does your child spend per day playing outdoors? (Check one.)

1 hour _____
2 hours _____
3 hours _____
4 or 5 hours _____
Over 6 hours _____
Just about all day _____

13. Any other comments?

Results of Postsurvey Form

1. How helpful was the Safe-Playing Program to you and your child?	Frequency	Percentage
1 (very helpful)	56	49.1
2	30	26.4
3	23	20.2
4	2	1.7
5 (not at all helpful)	2	1.7
Answer left blank	1	0.9
	114	100.0

Please explain why it *was* or *wasn't* helpful.

was		
Program taught child safe-play concepts	55	49.5
Child is more "careful" around streets-- holds parents' hands; stays away from street	12	10.8
Program gave parent ways to teach safe-play	12	10.8
Answer left blank	9	8.1
Program reinforced what parents had already taught child	7	6.3
Child liked the Program	2	1.8
Program worked in parking lots, etc.	2	1.8
[Answer given was unclear or didn't relate to question]	2	1.8

wasn't		
Family lives in rural area; streets have no proximity or attraction	4	3.6
Child was good around streets even before Program	3	2.7
Child was too old	3	2.7
	111	100.0

2. What did you really like about the Program?		
It taught the child to be safe	35	36.1
[Answers of general complimentary nature]	12	12.4
Parent and child working together in a structured program	12	12.4
Reward system	11	11.3
Storybooks	7	7.1
Answer left blank	6	6.1
Sit and Watch	4	4.1
Recognition of child's developmental limitations	3	3.1
Parent education about safety	2	2.1
Sesame Street characters	2	2.1
Child's enthusiasm	2	2.1
Workshop itself	1	1.1
	97	100.0

3. What should be changed in the Safe-Playing Program?	Frequency	Percentage
Nothing	48	47.5
Answer left blank	29	28.7
Use it with 3 year olds, not 5 year olds	6	5.9
[Answers of a general complimentary nature]	3	3.0
Shorten stories read at school and/or filmstrip at workshop	3	2.9
Content (Child thinks if he plays in street, trike will be hurt, not him; don't tell children to ride of peoples' grass; add materials about poisons, etc.)	3	2.9
Adapt it to rural areas (some things, rocks, not safe in rural areas)	2	2.0
Eliminate behavior modification techniques	2	2.0
Teach children to cross street	1	1.0
Start it at beginning of school year	1	1.0
Make it more relevant for city play	1	1.0
Have workshop before reading books at school	1	1.0
Program not strict enough for this danger (would spank plus put child in corner)	1	1.0
	101	100.0

4. Since the Parents' Workshop, about how many stickers have you given your child for playing safely?		
0	8	7.5
Less than 10	39	36.8
11-20	29	27.4
21-30	11	10.4
31-40	2	1.9
All of them	12	11.3
Answer left blank	3	2.8
Many	2	1.9
	106	100.0

5. How excited was your child about earning the stickers?		
1 (not at all excited)	6	5.5
2	5	4.5
3	13	11.7
4	18	16.4
5 (very excited)	62	56.4
Answer left blank	6	5.5
	110	100.0

6a. About how many times did you use the Safety Chart?	Frequency	Percentage
0 or blank	33	30.0
1	16	14.5
2	12	10.9
3	16	14.5
4	15	13.6
5 or over	10	9.2
Daily	6	5.5
Often	2	1.8
	110	100.0

6b. If you used the Safety Chart, what did your child most like working for?		
Stickers	35	31.8
Time with parents and parental attention	27	24.5
Answer left blank	19	17.2
Gum, Candy, Goodies	15	13.7
Toys	7	6.4
Extra privileges	6	5.5
Don't need chart; child is responsible without it	1	0.9
	110	100.0

7a. Since the workshop, how many times has your child broken your rules for playing safely?		
0 or none	49	43.8
1	12	10.6
2	16	14.3
3 or a few	19	17.0
4 or 5	2	1.8
5 or 6	2	1.8
10	1	0.9
Many times	1	0.9
Some	8	7.1
Answer left blank	2	1.8
	112	100.0

7b. If your child did break those rules, how often did you use Sit and Watch for unsafe behavior?		
No opportunity to use Sit and Watch (answered 0 or none in 7a)	48	45.7
Each time	35	33.3
Answer left blank, although child broke rules in 7a	7	6.7
1 out of 2 times	4	3.8
2 out of 3 times	4	3.8
3 out of 4 times	2	1.9
[Vague answer--i.e., "Some out of not many"]	5	4.8
	105	100.0

7c. If there were times when your child was unsafe and you didn't use Sit and Watch, why did you choose not to use it?	Frequency	Percentage
Not applicable, responded 0 or none in 7a	48	44.1
Not applicable, parent used Sit and Watch each time	35	32.2
Answer left blank	8	7.4
Were not at own home	6	5.5
Didn't see child break rules	2	1.8
[Answer given was vague]	1	0.9
Parent wanted to see how far child would go	1	0.9
Other children were around	1	0.9
Child seemed upset by it	1	0.9
Substituted saying wouldn't give child a sticker	1	0.9
Family interruptions	1	0.9
It "doesn't work"	1	0.9
"Used another discipline method"	1	0.9
"It's a punishment for parents"	1	0.9
Spanked child instead	1	0.9
	109	100.0

7d. What, if any problems, did you have using Sit and Watch? How did you solve those problems?		
Answer left blank, or didn't use it although child broke rules in 7a	6	5.5
Not applicable; parent answered 0 or none in 7a	46	41.8
None; parent used Sit and Watch	23	20.9
Used it; but had problems	35	31.8
	110	100.0
Problems (from 35 responses)		
Child wouldn't sit (responses varied from spanking to putting child in house, to parent sitting by child, to talking to child, to no further explanation)	18	51.4
Child talked back (parent sent child to room, ignored child, had child sit another 3 minutes)	3	8.6
Child cried (parent added time, said child wouldn't get stickers, forced child to sit)	3	8.6
Parent didn't like technique	2	5.7
Other children around	2	5.7
No excuse	2	5.7
Child stubborn; let him hold timer	1	2.9
Hard to use it in parking lot or middle of street	1	2.9
Parent's lack of self-discipline (parent with three toddlers)	1	2.9
Answer left blank	2	5.7
	35	100.0

8. About how long did your child play outdoors the last time he or she was outdoors while you were home?

	Frequency	Percentage
Less than 1 hour	22	20.4
1 hour	19	17.6
2 hours	29	26.8
3 hours	17	15.7
Over 4 hours	9	8.3
All afternoon	2	1.8
Just about all day	6	5.6
Answer left blank	4	3.8
	108	100.0

9. During that time your child was playing outdoors, how often do you recall telling your child that he or she was playing safely?

Never or zero	14	13.5
Once or twice	30	28.8
Three or four times	28	26.9
Often	7	6.8
Answer left blank	7	6.7
Frequently	6	5.9
4 or 5 times	1	0.9
5 or 6 times	4	3.8
The whole time	1	0.9
Infrequently	6	5.8
	104	100.0

10. Over a week's time while playing outdoors, how often does your child go into the street without your permission?

None, never, 0	86	79.6
Once	11	10.2
Infrequently	4	3.6
Twice	2	1.9
Three or four times	2	1.9
Answer left blank	2	1.9
Only to cross the street	1	0.9
	108	100.0

11. From your own view, since the Safe-Playing Program, how has your child's behavior changed while playing near traffic?

Positive changes: parents used words such as "more aware"; "more cautious"; "safer"; "better"	87	85.3
Parents saw no change or little change	9	8.8
Answer left blank	6	5.9
	102	100.0

12. At this time of year, about how much time does your child spend per day playing outdoors?

	Frequency	Percentage
1 hour	19	18.3
2 hours	14	13.5
3 hours	13	12.5
4 or 5 hours	25	24.0
Over 6 hours	20	19.2
Just about all day	5	4.8
Answer left blank	6	5.8
A "%" answer	2	1.9
	104	100.0

13. Any other comments?

Answer left blank	48	46.2
[Complimentary statements of a general nature]	23	22.1
"No"	9	8.6
Will use this program for other behaviors	5	4.8
Child much more aware of safety	4	3.8
Never had a problem with safety	3	2.9
[Extended thanks for being able to participate in Program]	3	2.9
This program should be for three-year olds only; not five-year olds	2	1.9
Liked workshop	2	1.9
Adults need to be more watchful for children in parking lots	1	1.0
Will use it with younger children	1	1.0
Need books on other safety concerns	1	1.0
"Even with the Program, they're still going to go in the street"	1	1.0
Content problem (sidewalks shouldn't be listed as safe, etc.)	1	1.0
	104	100.0

APPENDIX B

TEACHER'S SURVEY: FORM AND RESULTS

Cover Letter

Dear Safe-Playing Program Participant,

Not many people work harder than teachers, and you've been doing many extras to help the Safe-Playing Program.

My co-workers and I need to know about your trial use of the Safe-Playing Program so that more children, parents, teachers, and drivers can be spared the tragedy of pedestrian accidents involving preschoolers. Will you share your valuable experiences with us?

I've enclosed a survey for you to fill out. It's a long survey, and it's long because you put in a lot of time using the Safe-Playing Program. A short, little survey responding to "How'd you like it?" couldn't possibly represent your effort.

Your thoughtful, detailed answers will help in the final revision of the Safe-Playing Program. You need only answer those questions about parts of the Program in which you were directly involved. The sections are color coded to indicate various activities.

I'd like to have your feedback as quickly as possible, because we're trying to make revisions to the Program over the Summer.

A final note. Thank you for the many hours you spent on behalf of the field test. Without your help and that of others like you, there would be little chance of designing a Safe-Playing Program to reach most children in the United States. Through your help, several thousands of children will likely be saved from death, or injury each year.

By the way, one of the reasons we ask for your name on the survey is so that your school's effort to help test the Program can be accurately acknowledged in the final report.

May I expect your survey soon?

Sincerely,

Dennis D. Embry, Ph.D.
Coordinator, Safe-Playing Program

DDE:hs

P.S. Please return your completed questionnaire to the AAA Representative in your area who will return it to me. Thank you!

Survey Form*

I. The name of your school or program _____

II. If you have a particular classroom or building within your program, please specify your own particular setting:

_____

III. Please indicate your title or position: _____

IV. What is the name of the community in which your program is located?

_____

A. Check all of the things you did in using the Safe-Playing Kit:

1. _____ *Read Teachers' Instruction Manual or Parents' Workshop Manual*
   Please answer questions on pages 45-46, yellow paper

2. _____ *Helped with logistics (making arrangements) for classroom*
   Please answer questions on pages 46-47, tan paper

3. _____ *Helped with logistics (making arrangements) for Parents' Workshop(s)*
   Please answer questions on pages 49-50, green paper

4. _____ *Read concept probes with children*
   Please answer questions on page 47, blue paper

5. _____ *Read special storybooks to children*
   Please answer questions on pages 47-49, pink paper

6. _____ *Acted as a Parents' Workshop Discussion Leader*
   Please answer questions on pages 50-53, green paper

7. _____ *Assisted in running Parents' Workshop*
   Please answer questions on pages 49-53, green paper

8. _____ *Attended the In-Service Workshop on using the Program*
   Please answer questions on pages 53-54, ivory paper

Regardless of the role you played in implementing the Program, please answer the questions on page 45, and on pages 53-54, ivory paper.

B. If you read the Teachers' Instruction Manual or Parents' Workshop Manual, please answer the following questions:

9. How clearly were the Manuals written? (Circle one number.)

   Clearly ----- 1 2 3 4 5 ----- *Unclearly*

10. What, is anything, was unclear in the Manuals?

_____

*(Condensed from the actual 18-page form.)

11. What did you find especially valuable in the Manuals?

12. What needs to be added to the Manuals?

13. What needs to be taken out of the Manuals?

[Questions IV-*B*-9 through 13 were printed on a yellow sheet in the actual form.]

C. If you helped with making arrangements (logistics) for the use of materials in the classroom, please answer the next questions:

14. How smoothly did making arrangements (logistics) for classroom use of the Safe-Playing Program go? (Circle one number.)

Smoothly ----- *1* *2* *3* *4* *5* ----- *Not Smoothly*

15. What were the major problems, if any, in making arrangements (logistics) for the classroom use of materials?

16. How did you solve those problems?

17. Did your classroom use the "Classroom Progress Poster"? (The big poster used to keep track of 20 children in a classroom.)

*Yes*_____ *No*_____

18. If used, how valuable was the Classroom Progress Poster? (Circle one number.)

Valuable ----- *1* *2* *3* *4* *5* ----- *Not valuable*

19. On about how many children did you keep Individual Progress Cards? (The little cards on which each child's correct responses were noted.)

_____

20. Do you think something like the Individual Progress Card should be in the final version of the Kit? If yes, how should the Card be changed? If no, why not?

21. Only 20 plastic buttons (Big Bird) were provided in the original Kit. Did you make additional buttons?

*Yes*_____ *No*_____

22. If yes, how did you make additional buttons?

23. No question 23.

24. The Kit included ten optional worksheets for children. Did you use the worksheets with the children?

*Yes*_____ *No*_____

25. If used, did the children like any particular worksheet?

26. How did you make copies of the worksheets?

27. Do you have any other comments about making arrangements for the classroom use of materials?

[Questions IV-*C*-14 through 27 were printed on a tan sheet of paper in the actual form.]

D. If you helped give the Concept Probes to the children, please answer the next questions:

28. Did you award stickers to children for going through the Concept Probes?

*Yes*_____ *No*_____

29. If a child made a mistake on an answer, what did you typically do or say?

30. What difficulties did the children have with the Concept Probes?

31. What changes would you want made in the final version of the Concept Probes?

32. Would you recommend using the Concept Probes (with the changes you suggest) in the final Kit to measure children's progress?

[Questions IV-*D*-28 through 32 were printed on a blue sheet of paper in the actual form.]

E. If you helped read the special storybooks to children, please answer the next questions:

33. About how many children did you, yourself, read the storybook to?

_____

34. About how many of the children you read the stories to heard the books one-to-one?

_____

35. How well did children accept the stories being about themselves? (Circle one number.)

Accepting ----- 1 2 3 4 5 ----- Not accepting

36. How excited were the children to hear the storybooks? (Circle one number.)

Very excited ----- 1 2 3 4 5 ----- Bored

37. Did you ever use the books in a small or large group of children?

*Yes*_____ *No*_____

If so, describe what you did and how the children reacted.

38. Most children heard the storybooks: (Check one.)

_____*A couple of books in one day* _____*One book per week*

_____*One book per day (each day)* _____*Other (please specify)*

39. What, if any, problems did you encounter with Book 1 *(Big Bird's Safety Club)*?

40. What, if any, problems did you encounter with Book 2 *(Bigwheel Blooper)*?

41. What, is any, problems did you encounter with Book 3 *(Ball on the Loose)*?

42. What, if any, problems did you encounter with Book 4 *(Fast Feet)*?

43. Did any particular type of child have special difficulties with the storybooks?

*Yes*_____ *No*_____

If yes, how did you solve those difficulties?

44. On the average, how long did it take you to read a storybook to the child?

45. Please share with us your positive experiences with the books and children.

46. Describe the place (setting) where you read the storybooks to the children.

47. Do you think teachers should record children's responses to the storybooks?

*Yes*_____ *No*_____

Why or why not?

48. Any other comments about the special storybooks?

49. If you created some additional activities for the children under your care to strengthen the Safe-Playing Program, please describe what you did and how the children responded. (In the final teachers' manual, we want to put in a variety of suggestions for good optional activites.)

[Questions IV-*E*-33 through 49 were printed on a pink sheet of paper in the actual form.]

F. If you participated in the conduct of the Parents' Workshop, please answer the next questions:

50. How many families did you invite to participate in the workshop(s)?

_____

51. How did you select the families to invite?

52. How many workshops did you have? _____

Of those, how many in the morning? _____

the afternoon? _____

the evening? _____

53. What kind of arrangements did you have to make for rooms, equipment, etc.?

54. How difficult was it to obtain an automatic filmstrip projector for the filmstrip? (Circle one number.)

Easy ----- *1* *2* *3* *4* *5* ----- *Impossible*

55. How much of your time did making these arrangements take?

56. How many <u>families</u> came to the workshop(s)? _____

57. How many <u>parents</u> came to the workshop(s)? _____

58. How many <u>fathers</u> came to the workshop(s)? _____

59. How many pre-workshop surveys did you send out? _____

60. How many pre-workshop surveys did you get back? _____

61. How many post-workshop surveys did you get back? _____

62. How did parents sit during the workshop? (In a circle, around a table, in rows, etc.)

To encourage parents to attend the workshops, did you: (Please check question if answer is YES.)

63. _____Have the workshop(s) at different times? (List times, please.)

64. _____Provide child care for participating parents?

65. _____Offer transportation for parents without cars?

66. _____Send reminder notes pinned to children?

67. _____Have a door prize for parents attending workshop? (If yes, what kind of door prize? Who paid for it?)

68. _____Remind parents directly?

69. _____Put up posters or other displays at school?

70. _____Other? (Please describe so that some other teacher reading this could duplicate what you did.)

From the following, check the things that happened in the workshop(s):

71. _____The leader introduced everyone at the workshop.

72. _____The leader explained the goals of the program.

73. _____The leader gave an overview of the total program (both classroom materials and parents' materials).

74. _____Parents said what their rules were about traffic safety before the filmstrip.

75. _____The complete filmstrip was shown to parents.

76. _____The leader and parents talked about the three reasons why children go into the street.

77. _____Halfway through the filmstrip, parents discussed what their boundaries and rules for safe-play should be.

78. _____The leader described the 7-Step Poster (which outlines the main steps for the parents to take at home).

79. _____The leader described the purposes of the Take-Home Book.

80. _____Parents filled in some of the boundaries (during the workshop) for their own children in the Take-Home books.

81. _____Parents discussed possible rewards for safe-playing.

82. _____The leader discussed why Sit and Watch is better than nagging and spanking.

83. _____The parents discussed how to apply the program to their own special circumstances.

84. _____The leader passed around a sheet of paper for the parents to sign when they were going to implement the program at their respective homes.

85. _____The leader discussed how the program had helped other children.

86. _____The leader passed out copies of "Chad Learns Safe-Playing."

87. _____Each family received a Take-Home book.

88. _____Each family received seven Safety Charts and necessary stickers.

89. _____Each family received a 7-step Poster.

90. _____Each family received a "Good Words for Good Kids" poster.

91. Did the questions in the filmstrip help discussion in the workshop?

*Yes*_____ *No*_____

How, if at all, might the questions be improved?

92. How would you rate the degree of participation by parents in the Workshop(s)? (Circle one number.)

Almost all parents talked ----- *1 2 3 4 5* ----- *Almost no parents talked*

93. How excited were parents about the workshop(s)? (Circle one number.)

Excited ----- *1 2 3 4 5* ----- *Bored*

94. How committed to implementing the Program were the parents at the conclusion of the workshop(s)? (Circle one number.)

Committed ----- *1 2 3 4 5* ----- *Uncommitted*

95. What, if anything, in the workshop confused parents?

96. What kinds of concerns or questions voiced by parents did you have difficulty answering? How were those concerns or questions handled?

97. Did you advise parents not to use some part of the program at home?

*Yes*_____ *No*_____

If yes, what part(s), and why?

98. Did you make some materials, yourself, to use in conducting the workshop?

*Yes*_____ *No*_____

Please describe them and enclose a sample if possible.

99. What should be changed in the Parents' Workshop Manual to make it more useful in the future?

100. What should be changed in the filmstrip to make it better?

101. How did parents react to the Sit and Watch technique? (Circle one number.)

Favorably ----- *1* *2* *3* *4* *5* ----- *Unfavorably*

102. How did parents react to the use of the safety stickers?

Favorably ----- *1* *2* *3* *4* *5* ----- *Unfavorably*

103. Did you do any special things to encourage parents to implement the Program at home after the workshop(s)?

*Yes*_____ *No*_____

If so, please describe them so that some other teachers might use your ideas.

104. Of the parents who came to the workshop(s), estimate the percentage or actual number (be sure to say which) who actually implemented the program at home.

_____

105. If not all parents implemented the program, why didn't they?

106. Other comments and suggestions about the Parents' Workshop(s).

107. For those parents using the program, did they have any problems for which they sought your advice after the workshop?

*Yes*_____ *No*_____

What kinds of problems did they report? How did you advise them?

[Questions IV-*F*-50 through 107 were printed on a green sheet of paper in the actual form.]

Please answer all of the following questions.

108. What changes in the program did you have to make so it would fit your school, children, and parents?

109. How likely is your school to continue using the Safe-Playing Program? (Circle one number.)

Likely ----- 1 2 3 4 5 ----- Not likely

110. What changes will you want to make in the program when and if you use the Safe-Playing Program again?

111. One of the potential changes in the Kit is the possibility of making copies of the Take-Home materials available from some central source at a modest cost (about 25¢ for each family). (The school, parents, or some private donor might pay for the copies.) How likely would your school be to use such a service?

Likely ----- 1 2 3 4 5 ----- Not likely

112. In terms of helping children learn to play safer, how successful was the Safe-Playing Program at your school? (Circle one number.)

Successful ----- 1 2 3 4 5 ----- Not successful

113. Why do think it was as successful as you indicated?

114. If another teacher asked you about what you thought of the Safe-Playing Program, what would you say to that teacher?

115. In light of your experience with the Program, how helpful was the in-service workshop for teachers?

Helpful ----- 1 2 3 4 5 ----- Not helpful

116. How could the in-service workshop have been made more helpful?

117. Other comments and suggestions about the Safe-Playing Program.

118. We hope to contact many of the field-test participants over the phone for follow-up questions and issues that may arise from these evaluations. If you are willing to let us contact you, please indicate your name, address, and phone number below. Please give us any special summer address, if your program does not operate during the summer.

Name _____

Work address: _____

_____

Work phone: _____

Summer address: _____

_____

Summer phone: _____

PLEASE RETURN THESE COMPLETED FORMS TO:

Dennis D. Embry, Ph.D.,
Coordinator
Safe-Playing Project
130 Haworth Hall
The University of Kansas
Lawrence, KS 66045

If you have any questions about this, call (913) 864-3413, or write.

[Questions IV-*F*-108 through 118 were printed on ivory sheets of paper in the actual form.]

Results of Teacher's Survey

A. *Check all of the things you did in using the Safe-Playing Kit.*

1-8 (Teacher or aide checked which activities they carried out in implementing the Program; see page 45 of this Appendix.)

B. *If you read the Teachers' Instruction Manual or Parents' Workshop Manual, please answer the following questions:*

9. How clearly were the Manuals written?

	Frequency	Percentage
1 (Clearly)	21	80.8
2	1	3.9
3	1	3.9
4	1	3.8
5 (Unclearly)	1	3.8
Answer left blank	1	3.8
	26	100.0

10. What, if anything, was unclear in the Manuals?

Answer left blank	22	88.0
Nothing	2	8.0
In "several places one manual said one thing and another manual contradicted it"	1	4.0
	25	100.0

11. What did you find especially valuable in the Manuals?

Answer left blank	9	33.3
Step-by-step directions for workshop	3	11.1
Questions (and answers) that parents might raise	3	11.1
The specifics of what needed to be done	2	7.4
They were very clear	2	7.4
The details provided	1	3.7
All of it	1	3.7
Suggestions for relaying safety rules to children	1	3.7
Books and stickers	1	3.7
That the parents were involved	1	3.7
Using the children's names in books	1	3.7
Two copies of filmstrip script	1	3.7
Step-by-step directions for children	1	3.7
	27	100.0

12. What needs to be added to the Manuals?

	Frequency	Percentage
Answer left blank or "Nothing"	20	83.3
Highlight key words in script to catch workshop leader's attention	1	4.2
Spanish for participants; manual can be in English	1	4.2
More clear step-by-step directions of how to go about implementing Program	1	4.2
Possible better organization (had trouble finding concept probe information)	1	4.2
	24	100.0

13. What needs to be taken out of the Manuals?

Answer left blank or "Nothing"	17	65.4
Manuals need to be more concise	3	11.6
Too wordy ("Teachers of young children should know what to say without being told.")	3	11.6
Manuals are completely understandable	1	3.8
Letter to parents mentions prize car--some confusion about AAA role in this	1	3.8
Don't know--didn't use the whole manual as didn't have workshop	1	3.8
	26	100.0

C. *If you helped with making arrangements (logistics) for the use of materials in the classroom, please answer the next questions:*

14. How smoothly did making arrangements (logistics) for the classroom use of the Safe-Playing Program go?

1 (Smoothly)	9	34.6
2	10	38.5
3	5	19.3
4	0	0.0
5 (Not smoothly)	0	0.0
Answer left blank	1	3.8
Preschool teacher did it all	1	3.8
	26	100.0

15. What were the major problems, if any, in making arrangements (logistics) for the classroom use of materials?

	Frequency	Percentage
Answer left blank, or no problem	13	50.0
Timing in working programs into a busy preschool schedule	4	15.4
Arranging for a quiet place	2	7.7
Acquiring enough materials for everyone who participated	2	7.7
Some three-year olds were too young to take out of the room	2	7.7
Trying to separate children who participated in the Program from non-participants; all the children wanted stickers but not all parents participated*	2	7.7
Getting into classroom to read to children	1	3.8
	26	100.0

*This same problem surfaced in other answers.

16. How did you solve those problems?

Answer left blank	9	69.2
Paid a substitute to come in and take care of class while read to children	1	7.7
Spent more time than planned on Program	1	7.7
Set up table and chair in hall for reading area	1	7.7
Set up strict schedule for each child	1	7.7
	13	100.0

17. Did your classroom use the "Classroom Progress Poster"? (The big poster used to keep track of 20 children in a classroom.)

Yes	13	50.0
No	12	46.2
Answer left blank	1	3.8
	26	100.0

18. If used, how valuable was the Classroom Progress Poster?

1 (Valuable)	6	33.3
2	7	38.9
3	4	22.2
4	1	5.6
5 (Not valuable)	0	0.0
	18	100.0

19. On about how many children did you keep Individual Progress Cards? (The little cards on which each child's correct responses were noted.)

Number of Children	Frequency	Percentage
20	3	13.1
19	1	4.3
18	1	4.3
16	1	4.3
15	4	17.4
13	3	13.1
12	2	8.7
11	1	4.3
7	1	4.3
0	6	26.2
	23	100.0

20. Do you think something like the Individual Progress Card should be in the final version of the Kit? If yes, how should the Card be changed? If no, why not?

Answer left blank	3	12.5
Yes	12	50.0
No	9	37.5
	24	100.0

Yes

Put it on heavier paper	1	8.3
Just place a dot for wrong answer. Too time consuming to mark correct answers.	3	25.0
Just make notes on card	3	25.0
Yes [question misinterpreted]	2	16.7
Useful as is	2	16.7
Provides continuity among teachers	1	8.3
	12	100.0

No

Progress card was better for children to see and show their parents	1	11.1
Too time-consuming and doesn't contribute to child's knowledge	1	11.1
Too much work for teachers	3	33.3
Teacher should not have to figure percentages	1	11.1
Repetitive	1	11.1
No [question misinterpreted]	2	22.3
	9	100.0

21. Only 20 plastic buttons (Big Bird) were provided in the original Kit. Did you make additional buttons?

	Frequency	Percentage
Yes	6	23.1
No	18	69.2
Answer left blank	2	7.7
	26	100.0

22. If yes, how did you make additional buttons?

Photocopies, hand colored + contact paper	2	33.3
Plastic reusable covers, cardboard, yarn	1	16.7
Round contact paper circles	2	33.3
Answer left blank	1	16.7
	6	100.0

23. No question 23

24. The Kit included ten optional worksheets for children.

Did you use the worksheets with the children?

Yes	9	31.0
No	18	62.1
Answer left blank	2	6.9
	29	100.0

25. If used, did the children like any particular worksheet?

They liked all the worksheets	2	22.2
No feedback as children took them home	2	22.2
Children liked scribbling on paper	2	22.2
Questions #7 whether big bike should be allowed in street	1	11.1
Will use them next time	1	11.1
Answer left blank	1	11.1
	9	100.0

26. How did you make copies of the worksheets?

Photocopied	6	66.7
Duplicated	2	22.2
AAA did it	1	11.1
	9	100.0

27. Other comments about making arrangements for the classroom use of materials?

	Frequency	Percentage
Answer left blank	18	69.2
Too expensive to photocopy all	2	7.7
AAA a lifesaver in copying all materials as they were too expensive	2	7.7
On worksheets, children should color the correct answer--circle not a real concept at age three	1	3.9
Copying and collating materials took all day--too long	1	3.9
Don't believe in worksheets for children	1	3.8
Person who read books to children wasn't the classroom teacher and it took a lot of time to schedule reading time	1	3.8
	26	100.0

D. If you helped give the Concept Probes to the children, please answer the next questions.

28. Did you award stickers to children for going through the Concept Probes?

Yes	26	100.0
No	0	0.0
	26	100.0

29. If a child made a mistake on an answer, what did you typically do or say?

Corrected child; reasked question	5	23.8
Questioned answer; reasked question	4	19.0
Questioned answer; marked first response	2	9.4
Said, "Is that safe-play? What is?"	2	9.4
No comment	1	4.8
Answer left blank	1	4.8
Recorded first response; if incorrect, helped child	1	4.8
Said, "O.K." or "all right" unless saw a reason for child's confusion	1	4.8
Addressed child by name; reasked question	1	4.8
Said nothing or "You certainly are working hard"	1	4.8
Rephrased question and explained answer in a "reality-based" situation	1	4.8
Explicitly corrected; explained and had child repeat	1	4.8
	21	100.0

30. What difficulties did the children have with the Concept Probes?

	Frequency	Percentage
None	6	25.0
Some photos were not clear and were confusing	6	25.0
Three-year olds had trouble with pictures where children were safe and unsafe in the same picture	5	20.8
Community variations should be pictured	4	16.6
Children don't always recognize things; (i.e., basketball court--thought it was a street)	1	4.2
Shorten it	1	4.2
Eliminate it	1	4.2
	24	100.0

31. What changes would you want made in the final version of the Concept Probes?

Specific changes recommended for:

Concept Probe 1

Sample 2 - Bike is in street; a *no-no*
3A, 4A - No curb
7A - Some children are on sidewalk, some in street; place them one way or the other
10B - Child is not playing but sitting
12B - Not clear it is the street
12A - Child is just standing
15B - Only feet in street, sitting on curb

Concept Probe 2

Sample 1 - Child is just standing, not playing
Sample 2 - Should child be in the street?

2A and 2B - Look the same
3A - Not clear that it is the street
4A - Child is sitting on curb
5A - Not clear that it is the street even though car is nearby
9A - Sidewalk does not show clearly
10A - Most of the children are on the sidewalk
11A - Not clear that the child is in the street
15B - Some of the children are on the grass
17A - One child is on the grass
17B - None of one group of children could tell that it was a playground
18B - Sitting on the curb
19A - Looks like the child is in the street
19B - Sitting on the curb
16B - Don't like children riding toys on the grass

31. (continued)

Other comments on this question:

Use some city pictures
Have all children in the picture be safe or unsafe; don't mix in same picture
Shorten the Probes
Eliminate them from the Program
Too confusing for younger children
Use of driveway as a safe place to play was not covered in any detail in the Program!

32. Would you recommend using the Concept Probes (with the changes you suggest) in the final Kit to measure children's progress?

	Frequency	Percentage
Yes	12	57.1
Conditional Yes	3	14.3
(If I have time and help--2)		
(Although there was no consistency shown in Program with Concept Probes, some children's comments showed that they did learn about safe play--1)		
No (Not a valuable measuring tool, especially for three-year olds)	2	9.5
Answer left blank	4	19.0
	21	100.0

E. If you helped read the special Storybooks to children, please answer the next questions:

33. About how many children did you yourself read the Storybooks to?

Number of Children		
0	2	9.2
1-10	5	22.7
11-20	10	45.5
21-30	1	4.5
31-40	3	13.6
41 or more	1	4.5
	22	100.0

34. About how many of the children you read the stories to heard the books one-on-one?	Frequency	Percentage
Number of Children		
0	2	9.1
1-10	6	27.3
11-20	9	40.9
21-30	3	13.6
31-40	2	9.1
	22	100.0

35. How well did children accept the stories being about themselves?		
1 (Accepting)	19	70.4
2	6	22.2
3	2	7.4
4	0	0.0
5 (Not accepting)	0	0.0
	27	100.0

36. How excited were the children to hear the Storybooks?		
1 (Very excited)	14	56.0
2	7	28.0
3	4	16.0
4	0	0.0
5 (Bored)	0	0.0
	25	100.0

37. Did you ever use the books in a small or large group of children?		
Yes	9	34.6
No	15	57.7
Answer left blank	2	7.7
	26	100.0

If so, describe what you did and how the children reacted.

Took turns using children's names in book in circle	3	33.3
In circle, used one child's name all way through the book	1	11.1
Let children "read" them in free time	1	11.1
Discussed safety concepts with them as I read book	1	11.1
Children seemed more excited in group and seemed more clear on safety concepts	1	11.1
Used books as review after one-on-one	1	11.1
"Books should be different colors so they're easily discernible"	1	11.1
	9	100.0

38. Most children heard the Storybooks:	Frequency	Percentage
A couple of books in one day	5	19.2
One book per day (each day)	11	42.4
One book per week	7	26.9
Other (please specify); two per week	3	11.5
	26	100.0

39. What, if any, problems did you encounter with Storybook 1 (*Big Bird Teaches Safe Playing*)?		
Answer left blank or none	15	53.6
Confusion about grass and ground--how about grass and dirt?	3	10.7
Some didn't see child as self (black children especially confusing on page 5)	2	7.1
Think there is too much emphasis on Sesame Street	1	3.6
Playing in the grass is forbidden in New York City	1	3.6
Street should be called "road"	1	3.6
Page 45, only one of Oscar's feet is in the street	1	3.6
Didn't like some praise words like "keeno" and "super-duper"	1	3.6
Some children's attention spans were too short	1	3.6
Why not just say "I play on the grass, ground, sidewalk" instead of "I play on the grass. I play on the ground. I play on the sidewalk."	1	3.6
Would like pictures without Sesame Street characters--children look at them and don't pay attention to the book	1	3.6
	28	100.0

40. What, if any, problems did you encounter with Book 2 (*Bigwheel Blooper*)?		
Answer left blank	16	59.3
P. 27, children should not ride bigwheels on grass	2	7.4
P. 11, car is not doing anything. Bigwheel should look more hurt	2	7.4
P. 23, "yuk" and tongue stuck out are not necessary	1	3.7
P. 32, picture should have yellow line for bigwheel to stop (also p. 35)	1	3.7
P. 25, children expected another button	1	3.7
Many children don't have bigwheels	1	3.7
P. 7, did a "spin out" on bigwheel is meaningless	1	3.7
P. 9, didn't like having ball and bigwheel talk	1	3.7
P. 13, unlikely that teacher would be in neighborhood--maybe friendly neighbor	1	3.7
	27	100.0

41. What, if any, problems did you encounter with Book 3 (*Ball on the Loose*)?	Frequency	Percentage
Answer left blank or none	15	48.4
P. 21--what is an "owie"--unknown expression	5	16.1
Didn't like ball talking--ball can in no way actually warn child to stay out of the street	1	3.2
One child refused to listen to part about Sit and Watch	1	3.2
P. 13, bounce ball on sidewalk or ground	1	3.2
P. 15, child is still on sidewalk--didn't disobey--accident caused child to be projected into street	1	3.2
P. 19, picture didn't show ball	1	3.2
P. 21, picture should show Mom closer to street where child is--not just coming out of house	1	3.2
P. 39, didn't show bigwheel on the grass	1	3.2
P. 39 (Q. 20), many children thought child too close to parked cars	1	3.2
Used "didn't listen" instead of "disobeyed"	1	3.2
Like "good remembering" as praise phrase	1	3.2
P. 23--children couldn't answer this very completely	1	3.2
	31	100.0

42. What, if any, problems did you encounter with Book 4 (*Fast Feet*)?		
Answer left blank or none	15	60.0
P. 23, trash can is not hurt but smashed	4	16.0
Children's favorite book	1	4.0
Children's least favorite book	1	4.0
Children said not to pick up trash can as it is too heavy; why not use a plastic bag?	1	4.0
P. 33, children expected another button	1	4.0
Eliminated pp. 13-21 because was pressed for time and because they live in a rural area without trash pickup	1	4.0
"You really know the answer"; good praise	1	4.0
	25	100.0

43. Did any particular type of child have special difficulties with the storybooks?		
Yes (Less verbal; young three-year olds; children with short attention spans)	9	36.0
No	16	64.0
	25	100.0

If yes, how did you solve those difficulties?

	Frequency	Percentage
Less verbal children preferred to point at pictures	1	11.1
Children from poverty background; had to explain	1	11.1
Shortened story in some parts	1	11.1
Just read and explained story to three-year olds	1	11.1
Didn't explain further	5	55.5
	9	100.0

44. On the average, how long did it take you to read a storybook to the child?

Never timed it	1	3.9
Less than 10 minutes	5	19.2
10 to 15 minutes	15	57.7
20 minutes	5	19.2
	26	100.0

45. Please share with us your positive experiences with the books and children.

Children liked the books	7	25.9
Pictures and Sesame Street characters were popular	4	14.8
Answer left blank	4	14.8
Children learned to define safe and unsafe play areas	4	14.8
Liked personalization of books	3	11.1
Children wanted it to be their turn	2	7.4
Children corrected unsafe play in yard	1	3.7
Teacher liked rapport with children	1	3.7
When children saw movie, "The Red Balloon," and when boy ran into the street, children yelled, "No--that's dangerous"	1	3.7
	27	100.0

46. Describe the place (setting) where you read the storybooks to the children.

Quiet corner of room	5	21.7
Book corner	4	17.4
Teacher's Office	4	17.4
Library	4	17.4
Hall with table	2	8.7
Empty room	2	8.7
Safety corner	1	4.3
Answer left blank	1	4.3
	23	100.0

47. Do you think teachers should record children's responses to the storybooks?

	Frequency	Percentage
Yes	14	60.9
No	8	34.8
?	1	4.3
	23	100.0

Why or why not?

Answer left blank	8	34.8
Yes		
Only for field test	3	13.0
Helpful to assess progress	3	13.0
"Record on paper; tape not necessary"	1	4.4
No		
Too time consuming	4	17.4
Teacher can tell from questions what child knows	2	8.7
Monotonous	1	4.4
Most children respond correctly	1	4.3
	23	100.0

48. Any other comments about the special storybooks?

Answer left blank	13	52.0
Very good	3	12.0
It is difficult to give a button to a child in the Program and not give one to the other children	1	4.0
Liked neat, attractive pictures	1	4.0
Don't issue button until after Book 4	1	4.0
Use different color binders for each book	1	4.0
Approach seemed negative; lesson was taught from point of child doing something wrong like running into the street	1	4.0
Liked characters being unisex	1	4.0
Sesame Street characters were a positive influence	1	4.0
Liked the pictures and the children reading their own names	1	4.0
"Reading all these books to all those children gets very boring and aversive to teachers"	1	4.0
	25	100.0

49. If you created some additional activities for the children under your care to strengthen the Safe-Playing Program, please describe what you did and how the children responded. (In the final teacher's manual, we want to put in a variety of suggestions for good optional activities.)

	Frequency	Percentage
Answer left blank	20	74.0
Played "Big Bird" in school yard. Drew lines; non-riding child yells "Oh! Oh!" if riding child is unsafe	1	3.7
"Where is it safe to play?" Pretend game	1	3.7
Drew lines on cement for stopping wheel toys	1	3.7
Practiced throwing ball correctly	1	3.7
Took pictures of children at school at play; labelled them safe or unsafe	1	3.7
Made a storybook about each child playing safely near home	1	3.7
Practiced outside what was learned in class	1	3.7
	27	100.0

F. If you participated in the conduct of the Parents' Workshop, please answer the next questions:

50. How many families did you invite to participate in the workshop(s)?

Number of Families		
No Workshop	2	9.2
1-15	5	22.7
16-30	11	50.0
31-45	3	13.6
45 or more	1	4.5
	22	100.0

51. How did you select the families to invite?

Invited all in school or class	12	60.0
Prekindergarten parents who signed up	2	10.0
Parents in morning class	2	10.0
Families of four-year olds	2	10.0
First 13 families to sign up	1	5.0
Answer left blank	1	5.0
	20	100.0

52. How many workshops did you have?

Number of Workshops		Frequency	Percentage
Held only one:			
	in morning	6	23.1
	afternoon	1	3.8
	evening	4	15.4
Held two:			
	both morning	2	7.7
	both evening	2	7.7
	one morning/one afternoon	4	15.4
	one morning/one evening	2	7.7
Time unspecified		2	7.7
No workshop		3	11.5
		26	100.0

53. What kinds of arrangements did you have to make for rooms, equipment, etc.?

Used nursery school classroom	7	29.2
AAA did everything	6	25.0
Used parents' room in school	6	25.0
Answer left blank	4	16.7
Provided lunch	1	4.2
	24	100.0

54. How difficult was it to obtain an automatic filmstrip projector for the filmstrip?

1 (Easy)	12	52.2
2	6	26.1
3	1	4.3
4	2	8.7
5 (Impossible)	2	8.7
	23	100.0

55. How much of your time did making these arrangements take?

None	6	40.0
Lots	4	26.7
1-2 days	2	13.3
1 hour	1	6.7
3 hours	1	6.7
Insignificant, as meet with parents regularly	1	6.7
	15	100.0

56. How many families came to the workshop(s)?

Number of Families	Frequency	Percentage
1-10	10	45.5
11-20	5	22.7
21-30	4	18.2
No workshop	3	13.6
	22	100.0

57. How many parents came to the workshop(s)?
(See question #56.)

58. How many fathers came to the workshop(s)?

Number of Fathers		
0	11	57.9
1	2	10.5
2	4	21.0
5	1	5.3
7	1	5.3
	19	100.0

59. How many pre-workshop surveys did you send out?

Number of Surveys		
0	2	9.5
1-15	7	33.3
16-30	9	42.9
31-45	2	9.5
45 or more	1	4.8
	21	100.0

60. How many pre-workshop surveys did you get back?

Number of Surveys Returned (Pre-workshop)		
0	7	35.0
1-5	1	5.0
6-10	4	20.0
11-15	5	25.0
16-20	3	15.0
	20	100.0

61. How many post-workshop surveys did you get back?

Number of Surveys Returned (Post-workshop)		
0	7	35.0
1-5	5	25.0
6-10	4	20.0
11-15	2	10.0
16-20	2	10.0
	20	100.0

62. How did parents sit during the workshop? (In a circle, around a table, in rows, etc.?)

	Frequency	Percentage
Circle	9	37.5
Rows	4	16.7
Around table	4	16.7
Semicircle, rows	5	20.8
Younger children behind parents	1	4.2
Answer left blank	1	4.2
	24	100.0

To encourage parents to attend the workshop, did you: (Please check question if answer is YES.)
[Frequency and percentages for questions 63-90 are based on a total of 22 workshops.]

63.	Have the workshop at different times?	5	22.7
64.	Provide child care for participating parents?	14	63.6
65.	Offer transportation for parents without cars?	3	13.6
66.	Send reminder notes pinned to children?	8	36.4
67.	Have a door prize for parents attending workshops? (If yes, what kind of door prize? Who paid for it?)	1	4.5
68.	Remind parents directly?	22	100.0
69.	Put up posters or other displays at school?	13	59.1
70.	Other?		
	Served lunch	1	4.5
	Wrote up information in newsletter	1	4.5
	Put up signup poster	1	4.5
	Teacher contacted parents personally	1	4.5
	Held meeting while children were at school	1	4.5

From the following, check the things that happened in the workshop(s):

		Frequency	Percentage
71.	The leader introduced everyone at the workshop.	20	90.9
72.	The leader explained the goals of the program.	21	95.4
73.	The leader gave an overview of the total program (both classroom materials and parents' materials).	21	95.4
74.	Parents said what their rules were about traffic safety before the filmstrip.	18	81.8
75.	The complete filmstrip was shown to teachers.	22	100.0
76.	The leader and parents talked about the three reasons why children go into the street.	21	95.4
77.	Halfway through the filmstrip, parents discussed what their boundaries and rules for safe-play should be.	21	95.4
78.	The leader described the 7-Step Poster (which outlines the main steps for the parents to do at home).	20	90.9
79.	The leader described the purposes of the Take-Home Book.	20	90.9
80.	Parents filled in some of the boundaries (during the workshop) for their own children in the Take-Home Books.	8	36.4
81.	Parents discussed possible rewards for safe-playing.	15	68.2
82.	The leader discussed why Sit and Watch is better than nagging and spanking.	21	95.4
83.	The parents discussed how to apply the program to their own special circumstances.	21	95.4
84.	The leader passed around a sheet of paper for the parents to sign when they were going to implement the program at their respective homes.	6	27.3
85.	The leader discussed how the program had helped other children.	17	77.3

		Frequency	Percentage
86.	The leader passed out copies of "Chad Learns Safe-Playing."	16	72.7
87.	Each family received a Take-Home book.	20	90.9
88.	Each family received seven Safety charts and necessary stickers.	15	68.2
89.	Each family received a 7-step poster.	15	68.2
90.	Each family received a "Good Words for Good Kids" Poster.	16	72.7
91.	Did the question in the filmstrip help discussion in the workshop?		
	Yes	18	90.0
	No	1	5.0
	?	1	5.0
		20	100.0
92.	How would you rate the degree of participation by parents in the workshop(s)?		
	1 (Almost all parents talked)	7	35.0
	2	8	40.0
	3	3	15.0
	4	1	5.0
	5 (Almost no parents talked)	1	5.0
		20	100.0
93.	How excited were parents about the workshop(s)?		
	1 (Excited)	4	20.0
	2	8	40.0
	3	6	30.0
	4	2	10.0
	5 (Bored)	0	0.0
		20	100.0
94.	How committed to implementing the program were the parents at the conclusion of the workshop(s)?		
	1 (Committed)	3	14.3
	2	8	38.1
	3	9	42.8
	4	1	4.8
	5 (Uncommitted)	0	0.0
		21	100.0

95. What, if anything, in the workshop confused parents?

	Frequency	Percentage
Answer left blank	8	38.1
Nothing	4	19.0
Sit and Watch	4	19.0
Hated idea of a timer	3	14.3
English language	1	4.8
Were stickers necessary?	1	4.8
	21	100.0

96. What kinds of concerns or questions voiced by parents did you have difficulty answering? How were those concerns or questions handled?

None (AAA did all the work and led workshop)	3	42.8
Where to set boundaries in individual homes (i.e., a driveway unless a car is there, etc.)--used group discussion to share ideas	1	14.3
What to do if they still go in street after all this--teacher not sure she answered this	1	14.3
Where to get stickers (not all schools provided them)	1	14.3
Convincing some parents not to spank children but use Sit and Watch instead	1	14.3
	7	100.0

97. Did you advise parents not to use some part of the program?

Yes	0	0.0
No	19	90.4
Answer left blank	2	9.5
	21	100.0

98. Did you make some materials, yourself, to use in conducting the workshop?

Yes	0	0.0
No	20	100.0
	20	100.0

99. What should be changed in the Parents' Workshop to make it more useful in the future?

Answer left blank or nothing	15	75.0
Should be in both Spanish and English languages	1	5.0

99. (continued)	Frequency	Percentage
No need for it to be so explicit. Good Words for Good Kids "is a waste of money as are worksheets"	2	10.0
Put instructions for running workshop with filmstrip	1	5.0
Very helpful as is	1	5.0
	20	100.0

100. What should be changed in the filmstrip to make it better?		
Answer left blank or nothing	6	40.0
Fine, adequate as is	3	20.0
Excellent as is	2	13.3
Shorten discussion time	1	6.7
Some of it is too repetitive	1	6.7
Pictures are very middle class (home and front yards)	1	6.7
[New York City teacher was surprised that parents could relate to the "white folks" in the film]	1	6.7
	15	100.0

101. How did parents react to the Sit and Watch technique?		
1 (Favorably)	5	22.7
2	5	22.7
3	5	22.7
4	4	18.2
5 (Unfavorably)	1	4.5
Answer left blank	2	9.1
	22	100.0

102. How did parents react to the use of the safety stickers?		
1 (Favorably)	10	47.6
2	6	28.6
3	5*	23.8
4	0	0.0
5 (Unfavorably)	0	0.0
	21	100.0

*Some concern about needing stickers "forever" and what to do when supply ran out.

103. Did you do any special things to encourage parents to implement the program at home after the workshop(s)?	Frequency	Percentage
Yes	8	38.1
No	9	42.8
Answer left blank	4	19.0
	21	100.0

If so, please describe so that some other teachers might use your ideas.

Personal contact (How are you doing? Any questions?)	5	55.6
Called parents on the phone	1	11.1
Reminded parents of their responsibility to teach children	1	11.1
Kept parents aware of classroom safe-play progress	1	11.1
Discussed home safety problems. Parking lots are a big worry	1	11.1
	9	100.0

104. Of the parents who came to the workshop(s), estimate the percentage or actual number (be sure to say which) who actually implemented the program at home.		
All	2	10.5
80%	2	10.5
75%	2	10.5
50%	2	10.5
Answer left blank	7	36.8
Don't know	2	10.5
2%	1	5.3
Mother	1	5.3
	19	100.0

105. If not all parents implemented the program, why didn't they?		
Answer left blank	6	31.6
Too busy	2	10.5
End of school year	2	10.5
Teacher didn't follow up; didn't know	2	10.5
School parental involvement very low; parents all busy working	1	5.3
New baby at home	1	5.3
Parent felt program not applicable to home setting; lived in rural area	1	5.3

105. (continued)

	Frequency	Percentage
Parents were too busy in their everyday lives to deal with program	1	5.3
Parents had already been allowing child to cross street before program	1	5.3
Lack of time for one child in a large family	1	5.3
Parent had no problem with child and traffic	1	5.3
	19	100.0

106. Other comments and suggestions about the Parents' Workshop(s).

Answer left blank	11	61.0
Need more participation from parents	3	16.6
Parents loved giving stickers, children getting them	1	5.6
Shorten it; program too long for parents when both parents work	1	5.6
Have workshop early in fall so teachers can follow through with it all year	1	5.6
G. Lockman was excellent	1	5.6
	18	100.0

107. Did those parents using the program have any problems for which they sought your advice after the workshop?

Yes	5	25.0
No	13	65.0
Answer left blank	2	10.0
	20	100.0

What kinds of problems did they report? How did you advise them?

Parents said they had no traffic in their rural areas. (Teacher: use ideas in parking lots, etc.)	1	20.0
Finding time to implement program. (Teacher: try weekends)	1	20.0
Parents who wanted to spank children. (Teacher: urged them to use stickers and Sit and Watch for other problem behaviors as well)	1	20.0

107. (continued)

	Frequency	Percentage
Child wouldn't sit still for Sit and Watch. (Teacher: put stickers and chart away for day and try again next day)	1	20.0
Answer left blank even though reported there was a problem	1	20.0
	5	100.0

Please answer all of the following questions.

108. What changes in the program did you have to make so it would fit your school, children, and parents?

Answer left blank or none	9	42.7
Had to hire a substitute teacher so one teacher could read books; a real problem	3	14.3
Used it as was for field test	2	9.5
Sent buttons home only with children whose parents came to workshop	1	4.8
Could only invite limited number of parents	1	4.8
Didn't have enough buttons for them to take home; let them wear button while listening to story	1	4.8
Didn't write child's name in book	1	4.8
Could only have one workshop (time problem)	1	4.8
It took a lot of time	1	4.8
Didn't have time for workshop	1	4.8
	21	100.0

109. How likely is your school to continue using the Safe-Playing Program?

1 (Likely)	12	48.0
2	3	12.0
3	4	16.0
4	4	16.0
5 (Not Likely)	1	4.0
Answer left blank	1	4.0
	25	100.0

110. What changes will you want to make when and if you use the Safe-Playing Program again?

	Frequency	Percentage
Answer left blank or none	9	33.3
Won't do it one-on-one with storybooks; don't have enough staff or volunteers with working mothers to do this	6	22.2
Will use it only with four-year-olds	2	7.4
Will use part of it in school; could never use it for all 200 children	1	3.7
Will do it in the Spring	1	3.7
Difficult not having the whole class participate	1	3.7
Telling people positive reinforcement works doesn't convince them	1	3.7
Will need money for Xerox copies	1	3.7
Will do book part only; no workshop	1	3.7
Will let children look at books alone	1	3.7
Will ask volunteers to read books	1	3.7
Would scratch the parents' meeting and talk to parents individually	1	3.7
Eliminate Concept Probes	1	3.7
	27	100.0

111. One of the potential changes in the Kit is the possibility of making copies of the Take-Home materials available from some central source at a modest cost (about 25¢ for each family). (The school, parents, or some private donor might pay for the copies.) How likely would your school be to use such a service?

1 (Likely)	4	15.4
2	7	26.9
3	6	23.1
4	3	11.5
5 (Not likely)	5	19.2
Answer left blank	1	3.8
	26	100.0

112. In terms of helping children learn to play safer, how successful was the Safe-Playing Program at your school?

1 (Successful)	9	33.3
2	13	48.1
3	3	11.1
4	0	0.0
5 (Not successful)	0	0.0
Answer left blank	2	7.4
	27	100.0

113. Why do think it was as successful as you indicated?

	Frequency	Percentage
Children learned safety concepts and talked about them	7	30.4
Answer left blank	4	17.4
Families were pleased after doing program	4	17.4
Recall of children (they remembered it)	3	13.0
No feedback	2	8.7
Children liked it; parents appreciated staff concern	2	8.7
Children related well to Big Bird	1	4.3
	23	100.0

114. If another teacher asked you about what you thought of the Safe-Playing Program, what would you say to that teacher?

Program is well liked by children	6	21.4
It is a useful and necessary program	6	21.4
Time consuming and costly program	4	14.3
Need volunteer help with books	3	10.7
Answer left blank	2	7.1
Teachers did not think it would be as effective as it was; they were surprised at children's enthusiasm	2	7.1
Good program	2	7.1
Difficult to justify in terms of parent commitment	1	3.6
Unrealistic for family structure we have in 1981 where children are not at home much	1	3.6
Hard to implement because many children live in large apartment complexes with speed traps where they are allowed to play in the street	1	3.6
	28	100.0

115. In light of your experience with the program, how helpful was the in-service workshop for teachers?

1 (Helpful)	12	57.1
2	7	33.3
3	0	0.0
4	2	9.5
5 (Not helpful)	0	0.0
	21	100.0

116. How could the in-service workshop have been made more helpful?

	Frequency	Percentage
Answer left blank	10	43.5
Needed more time for questions and discussion	4	17.4
Did not attend workshop	3	13.0
Too much time spent on books; they were self-explanatory	1	4.3
Too long	1	4.3
Participants should have a chance to look through the materials before attending workshop	1	4.3
Teachers should have materials in front of them to look through at workshop	1	4.3
Should go through materials first and discuss safety afterwards	1	4.3
Most helpful as is	1	4.3
	23	100.0

117. Other comments and suggestions about the Safe-Playing Program.

Answer left blank	12	38.7
Concern about amount of time program took; perhaps books could be cut to one or two or made into filmstrips for whole class	3	9.7
Kit was too heavy	2	6.5
Excellent program for children, staff, parents	2	6.5
Concerned about possible cost of Kit; afraid it is going to be expensive	2	6.5
Reports were time consuming	1	3.2
Let children "read" book to themselves	1	3.2
Need stories related to single parent home	1	3.2
Parents need more education in all aspects of safety (seat belts, parking lots, etc.)	1	3.2
Too lengthy	1	3.2
Put each diploma in a cardboard paper frame and give it to child in special group time	1	3.2
Don't do Program at end of school year	1	3.2
Enthusiasm of parents amazed teacher	1	3.2
Schools need to know how time consuming this Program is before signing up	1	3.2
Program should be given to all four, five, and six-year olds	1	3.2
	31	100.0

APPENDIX C

CHILDREN'S RESPONSES TO STORYBOOKS AND CONCEPT PROBES

As stated in the body of the report, through an observational experimental study, the authors found that it was possible to reduce children's rate of entry into the street near their homes by 90% of their baseline rate. This effect held over time. The procedures, results, and discussion relating to this study are detailed elsewhere (Embry and Malfetti, 1980, 1981).

In the present study, as part of a "process" field test, the authors wished to determine whether children exposed to the Safe-Playing Program would learn safe-playing concepts, and whether what they learned could be satisfactorily measured.

Method

A description follows of the sample, instrumentation, research paradigm, data collection and analysis of data.

Sample

A concerted effort was made to recruit participants from geographically diverse preschools and day-care centers. Thus 254 children from 17 preschools and day-care centers, in urban, suburban and rural settings in eight states (Table I, page 4) took part in the study.

Instrumentation

Children were administered Concept Probe 1, Storybooks 1, 2, 3 and 4, and Concept Probe 2, in that order. Scores on these items were recorded on Individual Progress Cards. Teachers were trained in all aspects of administration at workshops described elsewhere in this report. (Instructions for Concept Probes, as presented to field-test teachers, appear on pages 129-131.)

Concept Probes 1 and 2

Concept Probes 1 and 2 were derived from 33 pairs of photographs (used by the authors in earlier studies) showing children playing safely and unsafely. These earlier probes had a split-half reliability coefficient of +0.87. In the present study, Concept Probe 1 was a small loose leaf binder containing 20 pairs of photographs depicting children in safe and unsafe playing situations. Using a one-on-one procedure, teachers asked each child to "touch the picture of the child playing safely," and recorded the child's response on the Individual Progress Card (page 132). Concept Probe 1 was designed to test children's comprehension of safe playing concepts immediately prior to exposure to the storybooks. Traditional item data are shown in Table I. Concept Probe 1 had an alpha reliability coefficient of 0.79.

TABLE I

ITEM ANALYSIS: DIFFICULTY LEVEL AND DISCRIMINATION INDEX FOR EACH ITEM IN CONCEPT PROBE 1 (N = 242)

Item	Difficulty Level	Discrimination Index
1	.68	.38
2	.67	.44
3	.72	.31
4	.67	.53
5	.71	.51
6	.84	.39
7	.70	.57
8	.82	.44
9	.91	.26
10	.75	.59
11	.81	.46
12	.74	.53
13	.82	.49
14	.86	.41
15	.74	.48
16	.83	.53
17	.81	.43
18	.83	.59
19	.88	.33
20	.90	.34

Concept Probe 2 also was a small loose leaf binder, with 20 pairs of safe/unsafe play pictures similar to those shown in Concept Probe 1. It was designed to assess the children's grasp of the safe playing concepts presented in class immediately after they had heard all four storybooks. It was administered in the same manner as Concept Probe 1, with children's responses recorded on the Individual Progress Card. Item data are shown in Table II. Concept Probe 2 had an alpha reliability coefficient of 0.68.

TABLE II

ITEM ANALYSIS: DIFFICULTY LEVEL AND DISCRIMINATION INDEX FOR EACH ITEM IN CONCEPT PROBE 2 (N = 226)

Item	Difficulty Level	Discrimination Index
1	.96	.09
2	.85	.23
3	.85	.39
4	.83	.53
5	.95	.14
6	.92	.19
7	.96	.18
8	.94	.19
9	.87	.32
10	.83	.30
11	.96	.14
12	.98	.07
13	.93	.25
14	.92	.30
15	.93	.21
16	.98	.07
17	.50	.83
18	.93	.23
19	.88	.33
20	.98	.07

Concept Probe 1 was administered immediately before Storybook 1, Concept Probe 2 immediately after Storybook 4. Tables III and IV give frequency distributions of the scores for Concept Probes 1 and 2, respectively; Tables V and VI show correlations between items and test scores for the Probes.

TABLE III

FREQUENCY DISTRIBUTION OF SCORES
FOR ENTIRE SAMPLE ON CONCEPT PROBE 1
(N = 242)

Score	Frequency
20	32
19	33
18	31
17	25
16	23
15	18
14	15
13	14
12	15
11	12
10	9
9	6
8	4
7	2
6	1
5	0
4	0
3	0
2	2

TABLE IV

FREQUENCY DISTRIBUTION OF SCORES
FOR ENTIRE SAMPLE ON CONCEPT PROBE 2
(N = 226)

Score	Frequency
20	63
19	42
18	52
17	26
16	13
15	11
14	10
13	2
12	1
11	4
10	2

TABLE V

CORRELATIONS BETWEEN EACH ITEM AND THE
TOTAL SCORE FOR ENTIRE SAMPLE ON CONCEPT PROBE 1
(N = 242)

Item Number	Item-Test Correlation
1	.26
2	.39
3	.20
4	.39
5	.42
6	.43
7	.48
8	.47
9	.44
10	.56
11	.47
12	.50
13	.54
14	.50
15	.46
16	.62
17	.44
18	.63
19	.49
20	.53

TABLE VI

CORRELATIONS BETWEEN EACH ITEM AND THE
TOTAL SCORE FOR ENTIRE SAMPLE ON CONCEPT PROBE 2
(N = 226)

Item Number	Item-Test Correlation
1	.22
2	.23
3	.54
4	.49
5	.24
6	.20
7	.46
8	.43
9	.42
10	.28
11	.40
12	.37
13	.48
14	.49
15	.42
16	.32
17	.49
18	.46
19	.44
20	.21

Storybooks 1-4

The four storybooks were designed to offer symbolic models for children to follow in imitating safe behavior; they were meant also to teach key concepts related to playing safely. On almost every page of the storybooks, questions were printed to probe children's learning. Following a protocol in which they received training at the workshops, teachers read storybooks to each child individually, asked the child questions at the designated points, and recorded the child's answers on an Individual Progress Card (page 132).

The number of questions (items) varied by storybook. Traditional item data for the four storybooks are shown in Tables VII-X. Alpha reliability coefficients for each of the four storybooks were as follows: Storybook 1, 0.74; Storybook 2, 0.75; Storybook 3, 0.78; Storybook 4, 0.81.

TABLE VII

ITEM ANALYSIS: DIFFICULTY LEVEL AND DISCRIMINATION INDEX FOR EACH ITEM* IN STORYBOOK 1 (N = 237)

Item	Difficulty Level	Discrimination Index
1	1.00	.00
2	.98	.08
3	.97	.07
4	.94	.20
5	.82	.47
6	.93	.15
7	.96	.15
8	.99	.02
9	.99	.02
10	.74	.68
11	.91	.28
12	.97	.12
13	.93	.18
14	.98	.08
15	.99	.03
16	omitted	
17	omitted	
18	.95	.15
19	.87	.43
20	.98	.10
21	.90	.33
22	.88	.37
23	.90	.35
24	.89	.33

*Because of a missing page, items 16 and 17 were omitted in the field test version of Storybook 1.

TABLE VIII

ITEM ANALYSIS: DIFFICULTY LEVEL AND DISCRIMINATION INDEX FOR EACH ITEM IN STORYBOOK 2 (N = 233)

Item	Difficulty Level	Discrimination Index
1	.99	.00
2	.99	.00
3	.94	.20
4	.92	.22
5	.90	.34
6	.94	.19
7	.85	.51
8	.94	.10
9	.91	.24
10	.90	.25
11	.86	.37
12	.95	.12
13	.86	.41
14	.89	.39
15	.86	.46
16	.91	.25
17	.92	.32
18	.97	.10
19	.96	.17
20	.96	.14

TABLE IX

ITEM ANALYSIS: DIFFICULTY LEVEL AND DISCRIMINATION INDEX FOR EACH ITEM IN STORYBOOK 3 (N = 230)

Item	Difficulty Level	Discrimination Index
1	.99	.02
2	.99	.05
3	.88	.29
4	.98	.03
5	.93	.26
6	.84	.38
7	.95	.17
8	.90	.22
9	.97	.10
10	.89	.35
11	.87	.41
12	.81	.41
13	.94	.16
14	.92	.24
15	.94	.17
16	.86	.41
17	.99	.00
18	.92	.29
19	.87	.35
20	.79	.40
21	.94	.19
22	.97	.10
23	.97	.12
24	.95	.19
25	.97	.10
26	.95	.17

TABLE X

ITEM ANALYSIS: DIFFICULTY LEVEL AND DISCRIMINATION INDEX FOR EACH ITEM IN STORYBOOK 4 (N = 216)

Item	Difficulty Level	Discrimination Index
1	1.00	.00
2	1.00	.00
3	.96	.17
4	.95	.20
5	.96	.11
6	.86	.43
7	.99	.04
8	.86	.43
9	.81	.52
10	.89	.37
11	.96	.13
12	.91	.28
13	.94	.19
14	.85	.43
15	.92	.32
16	.96	.09
17	.89	.35
18	.90	.35
19	.94	.20
20	.93	.26
21	.97	.06
22	.90	.33

The first two or three items in each Storybook were made very easy (as can be seen) to give the child confidence in his ability to answer questions and to motivate him to wish to complete the Storybook. There are other probable explanations for some of the difficulty levels. For example, in Storybook 1 (Table VII), item 10 (tne most difficult item in that Storybook) asked the child to "Touch the ground in the picture." The word *ground* may have been confusing to some, for while item 11 asks

essentially the same question, the correct answer was given more frequently, probably reflecting the teacher's explanation of what *ground* meant for the children who missed question 10. Item 5 was another relatively difficult question, "Tell me where Big Bird is walking." Some children said "first" or "in front," correct answers in a literal sense, but not the correct answer the authors were seeking.

At the end of Storybook 2 (Table VIII), questions 16-20 were actually review questions. This could account for the fact that they turned out to be among the easier items. Readers are thus alerted to the fact that there are probably other equally good explanations for variations in some of the item data.

Storybooks 1-4 were to be administered in sequence, not more than one a day, between Concept Probes 1 and 2. Tables XI-XIV give frequency distributions of scores for the four storybooks; Tables XV-XVIII show correlations between items and test scores for the storybooks.

TABLE XI

FREQUENCY DISTRIBUTION OF SCORES
FOR ENTIRE SAMPLE ON STORYBOOK 1
(N = 237)

Score	Frequency
22	107
21	49
20	25
19	20
18	10
17	12
16	5
15	2
14	3
13	1
12	2
11	1

TABLE XII

FREQUENCY DISTRIBUTION OF SCORES FOR ENTIRE SAMPLE ON STORYBOOK 2 (N = 233)

Score	Frequency
20	114
19	39
18	18
17	23
16	15
15	8
14	5
13	3
12	3
11	3
10	2

TABLE XIII

FREQUENCY DISTRIBUTION OF SCORES FOR ENTIRE SAMPLE ON STORYBOOK 3 (N = 230)

Score	Frequency
26	88
25	43
24	27
23	24
22	22
21	4
20	5
19	4
18	4
17	4
16	0
15	3
14	1
13	0
12	0
11	0
10	1

TABLE XIV

FREQUENCY DISTRIBUTION OF SCORES
FOR ENTIRE SAMPLE ON STORYBOOK 4
(N = 216)

Score	Frequency
22	109
21	33
20	22
19	15
18	8
17	10
16	7
15	4
14	3
13	1
12	0
11	1
10	1
9	2

TABLE XV

CORRELATIONS BETWEEN EACH ITEM AND THE
TOTAL SCORE FOR ENTIRE SAMPLE ON STORYBOOK 1
(N = 237)

Item Number	Item-Test Correlation
1	1.00
2	.17
3	.32
4	.43
5	.51
6	.18
7	.29
8	.13
9	.13
10	.59
11	.45
12	.30
13	.50
14	.21
15	.15
16 omitted	
17 omitted	
18	.31
19	.64

TABLE XV (continued)

Item Number	Item-Test Correlation
20	.31
21	.51
22	.58
23	.66
24	.50

TABLE XVI

CORRELATIONS BETWEEN EACH ITEM AND THE TOTAL SCORE FOR ENTIRE SAMPLE ON STORYBOOK 2 (N = 233)

Item Number	Item-Test Correlation
1	.02
2	.01
3	.59
4	.32
5	.42
6	.32
7	.54
8	.29
9	.47
10	.47
11	.49
12	.20
13	.48
14	.63
15	.57
16	.41
17	.55
18	.36
19	.46
20	.30

TABLE XVII

CORRELATIONS BETWEEN EACH ITEM AND THE TOTAL SCORE FOR ENTIRE SAMPLE ON STORYBOOK 3 (N = 230)

Item Number	Item-Test Correlation
1	.02
2	.23
3	.40
4	.08
5	.46
6	.53
7	.46
8	.26
9	.38
10	.47
11	.48
12	.46
13	.45
14	.56
15	.34
16	.59
17	.00
18	.64
19	.37
20	.26
21	.42
22	.41
23	.32
24	.43
25	.32
26	.46

TABLE XVIII

CORRELATIONS BETWEEN EACH ITEM AND THE TOTAL SCORE FOR ENTIRE SAMPLE ON STORYBOOK 4 (N = 216)

Item Number	Item-Test Correlation
1	1.00
2	1.00
3	.37
4	.50
5	.25
6	.52
7	.11
8	.56
9	.57
10	.60
11	.36
12	.51
13	.20
14	.48
15	.57
16	.37
17	.58
18	.58
19	.59
20	.54
21	.14
22	.59

Research Paradigm

The research design was basically one group pretest-posttest without control groups, as described with its limitations by Campbell and Stanley.[1] The major limitation of this design is the constraint on attributing change between pretest and posttest measurements to the experimental treatment (application of the Safe-Playing Program). When employing this design it is important to reduce the likelihood of extraneous variables altering the posttest results by keeping the interval between the pretest and posttest as short as possible.

The paradigm may be illustrated as follows:

O_1 X O_2

where O_1 = Pretest (Concept Probe 1)

X = The Four Storybooks

O_2 = Posttest (Concept Probe 2)

Data Collection

Teachers recorded children's correct responses to the concept probes and storybook questions on Individual Progress Cards (page 132). These Cards were then sent to Dr. Embry at The University of Kansas, where each card received a Data Control Sheet containing the following coding information:

1. Pupil I.D. Each student was given a 3-digit + one alpha-numeric letter code to identify him/her. (The numbers started at 001 for each school.)

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[1] Donald T. Campbell and Julian C. Stanley. Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally College Publishing Company, 1963, pp. 7-12.

a = nonspecified
b = physically or mentally handicapped
c = English is second language

2. School I.D. Each school was given a distinct 3-digit code. Numbers indicate the number of the site visit (i.e., 01 is Massachusetts, the first site visit) + the number of the school in that area (1-5 usually).

The Pupil I.D. and the School I.D. together form a unique student I.D. The student I.D. alone is *not* a unique I.D.

3. Teacher I.D. Each teacher within a school was given a 2-digit code number. Here again that number coupled with the School I.D. constitutes a unique number.

4. Population Density. Schools were identified as 1-Urban; 2-Suburban; 3-Rural.

5. Pupil Age. Given in years.

6. Teacher Fidelity Index. This is a percentage figure computed on the basis of teachers' answers to the following survey questions:

		Answer	
a.	Did your classroom use the "Classroom Progress Poster"? (Q #17)*	*yes* = 100% *no* = 0%	a.___%
b.	Did you use "Individual Progress Cards"? (Q #19)	*yes* = 100% *no* = 0%	b.___%
c.	Did you award stickers for Concept Probes? (Q #28)	*yes* = 100% *no* = 0%	c.___%
d.	Did you read the Storybooks to the children one-on-one? (Q #34)	*yes* = 100% *no* = 0%	d.___%

*Q numbers refer to questions (modified) from the Teacher Survey Form (pages 45-53).

e. Did you limit the books read to not more than one a day? (Q #38) — *yes* = 100%, *no* = 0% — e.____%

f. Of the seven arrangements for the Parents' Workshop (Q #63-70) — $\frac{\text{\# teachers did}}{7} \times 100 = \%$ — f.____%

g. Of the suggestions for conducting the Workshop (Q #71-90) — $\frac{\text{\# teachers used}}{20} \times 100 = \%$ — g.____%

Average of a-g = ____%

= Teacher Fidelity Index

7. Parent Fidelity Index. This is a percentage figure computed on the basis of parents' answers to a postworkshop survey:

a. $\frac{\text{\# of stickers given (Q \#4)}^{**}}{35} \times 100 = $ ____%

b. $\frac{\text{\# of charts used (Q \#6)}}{7} \times 100 = $ ____%

c. $\frac{\text{\# of times Sit and Watch used}}{\text{\# of times rules broken}} \times 100 = $ ____%

Average of a-c = ____%

= Parent Fidelity Index

**Q numbers refer to questions (modified) from the Post Survey of Parents (pages 36-37).

After coding, the Data Control Sheets were sent to The Safety Research and Education Project at Teachers College, Columbia University, for keypunching and analysis.

Analysis of Data

As stated earlier, the original total sample comprised 254 children. This number was reduced to 244 children, when those with handicaps (interfering with performance on tests) or who used English as a second language were removed from the sample for analysis. The remaining children were divided into three age groups: two and three-

year olds, four-year olds, five-year olds and older. Although the data were originally coded by urban, suburban and rural, the small sample size for rural led to the combination of rural and suburban, thus leaving only two population density groups--urban and suburban/rural.

Three types of analyses were conducted: item analysis, t-tests, and analysis of variance. Each type started with a maximum possible sample size of 244 children (those coded nonspecified on the Data Control Sheets). For item analysis (pages 83-93) of this Appendix, the sample size (N) differs for each probe or storybook, reflecting the number of children who completed a particular instrument. For the t-tests on difference scores between Concept Probes 1 and 2, and for analysis of variance, data were used only for those children who satisfactorily completed Concept Probes 1 and 2 as well as all four storybooks in the prescribed sequence--a total of 207 children.

For t-tests and analysis of variance, four variables were of special interest in relation to children's responses to storybooks and Concept Probes: age; population density (of the geographic area in which the child attended preschool or day-care); Teacher Fidelity Index (the degree to which a teacher followed recommended procedures in administering the Safe-Playing Program); and Parent Fidelity Index (the degree to which a parent followed recommended procedures for the home portion of the Safe-Playing Program).

As said earlier, age was divided into three groups: two and three-year olds, four-year olds, five-year olds and older. Population Density was categorized in two groups: urban and suburban/rural. The Teacher Fidelity Index was divided into three categories--low, medium and high--in order to have approximately one-third of the teachers in

each group. Low represented an Index (compiled as described on pages 100-101) of 1 to 73%, medium 74 to 90%, and high 91 to 100%. The Parent Fidelity Index also was divided into low, medium and high categories. Low represented an Index (computed as described on page 101 of this Appendix) of 1 to 26%, medium 27 to 57%, high 58 to 100%.

Results

The results of item analysis are reported under Instrumentation, pages 83-93.

The results of t-testing are found in Table XIX. The total sample of children who were administered the four storybooks showed a significant ($p < .0005$) gain in score from Concept Probe 1 to Concept Probe 2. Thus the Program seems valuable for learning safe-playing concepts.

The two and three-year old children and the four-year old children gained significantly ($p < .0005$ for both groups), in scores from Concept Probe 1 to Concept Probe 2, while the five-year olds and older did not.

Urban children gained significantly ($p < .0005$) while the suburban/rural group did not (but they came close at $p < .10$).

Children exposed to teachers and parents in each of the three Fidelity Index categories--low, medium or high--all gained significantly ($p < .0005$) between Concept Probes 1 and 2.

TABLE XIX

t-TEST OF DIFFERENCE SCORES FOR CONCEPT PROBES 1 AND 2 FOR TOTAL SAMPLE: MEAN DIFFERENCE, STANDARD DEVIATION OF DIFFERENCE, t-VALUE AND PROBABILITY BY AGE, POPULATION DENSITY, TEACHER FIDELITY INDEX AND PARENT FIDELITY INDEX

Variable	N	Mean Difference	Standard Deviation Of Difference	t-Value	Degree of Freedom	Probability
Total Sample	207	2.35	3.6	9.50	206	.0005
Age 2, 3	40	3.78	4.0	5.93	39	.0005
Age 4	125	2.38	3.	7.36	124	.0005
Age 5+	36	0.31	1.7	1.09	35	NS (p > .10)
Population Density						
Urban	158	2.96	3.7	9.92	157	.0005
Suburban/Rural	49	0.41	1.9	1.52	48	NS (p < .10)
Teacher Fidelity Index						
Low	59	2.75	3.2	6.66	58	.0005
Medium	65	2.97	4.2	5.64	64	.0005
High	43	2.35	3.0	5.11	42	.0005
Parent Fidelity Index						
Low	28	2.89	3.4	4.52	27	.0005
Medium	35	2.40	3.6	3.94	34	.0005
High	27	1.85	2.1	4.69	26	.0005

An analysis of variance (Table XX) computed for each of the four variables confirms age and population density as significantly ($p < .001$) related to difference scores, while Teacher and Parent Fidelity Indices are not.

TABLE XX

ANALYSIS OF VARIANCE FOR FOUR VARIABLES ON DIFFERENCE SCORES ON CONCEPT PROBE 1 AND CONCEPT PROBE 2

Variable	F-ratio	Significance Level
Age	9.74	$p < .001$
Population Density	20.97	$p < .001$
Teacher Fidelity Index	0.39	NS
Parent Fidelity Index	0.75	NS

Tables XXI through XXVIII expand the results shown in Table XX, and permit the authors to speculate on the reasons for some of the results.

TABLE XXI

ANALYSIS OF VARIANCE FOR AGE GROUPS ON DIFFERENCE SCORES ON CONCEPT PROBES 1 AND 2

Source	DF	Mean Square	F
Age	2	115.44697	9.74*
Error	198	11.84819	--

*$p < .001$

TABLE XXII

MEANS AND STANDARD DEVIATIONS FOR AGE GROUPS ON CONCEPT PROBES 1 AND 2*

Group	N	Concept Probe 1		Concept Probe 2	
		Mean	Standard Deviation	Mean	Standard Deviation
2, 3 years	40	13.2	3.31	16.98	2.93
4 years	125	15.56	3.73	17.94	2.01
5+ years	36	18.58	1.66	18.89	0.95

*See Table XIX for mean differences and standard deviations of the differences.

Table XXI shows age to be significantly ($p < .001$) related to difference scores on Concept Probes 1 and 2. Table XXII offers a possible reason. Children five-years and older scored so high on Concept Probe 1 (18.58 out of a possible 20) that they were precluded from gaining much that could be measured. Two and three-year olds, and four-year olds, on the other hand, had ample room for growth. While targeted primarily for four-year olds, the authors would not like to see five-year olds kept from the Program on the basis of such tentative results with so small a sample.

Table XXIII reveals population density as a factor significantly ($p < .001$) related to difference scores on Concept Probes 1 and 2. As shown in Table XXIV, the mean score on Concept Probe 1 was 14.92 for urban children and 17.57 for suburban/rural. The considerably higher beginning score for the latter, plus their comparatively small sample size may account for the significant difference in gain scores for urban vs. suburban/rural groups. For Concept Probe 2, the mean scores were

within 0.12 of each other (17.87 vs. 17.98), showing that both groups achieved at about the same high level on Concept Probe 2.

TABLE XXIII

ANALYSIS OF VARIANCE FOR POPULATION DENSITY GROUPS ON DIFFERENCE SCORES ON CONCEPT PROBES 1 AND 2

Source	DF	Mean Square	F
Population Density	1	242.72943	20.97*
Error	205	11.57330	--

*p < .001

TABLE XXIV

MEANS AND STANDARD DEVIATIONS FOR POPULATION DENSITY GROUPS ON CONCEPT PROBES 1 AND 2*

		Concept Probe 1		Concept Probe 2	
Group	N	Mean	Standard Deviation	Mean	Standard Deviation
Urban	158	14.92	3.84	17.87	2.19
Suburban/Rural	49	17.57	2.54	17.98	2.08

*See Table XIX for mean differences and standard deviations of the differences.

Tables XXV-XXVIII show that the degree to which teachers and parents followed prescribed regimens for the conduct of the Safe-Playing Program in school and at home had no significant relationship to difference scores on Concept Probes 1 and 2. The authors would like to believe that this is because the Program is so good it is difficult not to present

it with good effect. However, the Fidelity Indices did make a difference on how well children comprehended the storybooks, as we shall see later.

TABLE XXV

ANALYSIS OF VARIANCE FOR TEACHER FIDELITY INDICES FOR DIFFERENCE SCORES ON CONCEPT PROBES 1 AND 2

Source	DF	Mean Square	F
Teacher Fidelity	2	4.99095	0.39*
Error	164	12.89569	--

*Not significant

TABLE XXVI

MEANS AND STANDARD DEVIATIONS FOR TEACHER FIDELITY GROUPS ON CONCEPT PROBES 1 AND 2*

		Concept Probe 1		Concept Probe 2	
Group	N	Mean	Standard Deviation	Mean	Standard Deviation
Low	59	15.24	3.52	17.98	1.86
Medium	65	15.58	4.15	18.55	1.73
High	43	15.63	3.04	17.98	2.05

*See Table XIX for mean differences and standard deviations of the differences.

TABLE XXVII

ANALYSIS OF VARIANCE FOR PARENT FIDELITY INDICES FOR DIFFERENCE SCORES ON CONCEPT PROBES 1 AND 2

Source	DF	Mean Square	F
Parent Fidelity	2	7.45146	0.75*
Error	87	9.89064	--

*Not significant

TABLE XXVIII

MEANS AND STANDARD DEVIATIONS FOR PARENT FIDELITY GROUPS FOR CONCEPT PROBES 1 AND 2*

		Concept Probe 1		Concept Probe 2	
Group	N	Mean	Standard Deviation	Mean	Standard Deviation
Low	28	14.61	4.65	17.5	2.27
Medium	35	15.37	3.07	17.77	2.14
High	27	16.70	2.33	18.56	1.37

*See Table XIX for mean differences and standard deviations of the differences.

Table XXIX shows basic analytical data for each of the four storybooks and for Concept Probes 1 and 2. The maximum sample size for analysis was 244, reduced according to the number of children who completed the specific instrument, regardless of whether they completed any or all of the other instruments.

TABLE XXIX

MEAN, VARIANCE, STANDARD DEVIATION, AND STANDARD ERROR OF MEASUREMENT FOR STORYBOOKS 1-4 AND CONCEPT PROBES 1 AND 2

	Sample Size	Number of Items	Mean	Variance	Standard Deviation	Standard Error of Measurement
Storybook I	237	22	20.45	4.63	2.15	1.09
Storybook 2	233	20	18.43	4.93	2.22	1.11
Storybook 3	230	26	23.98	6.99	2.64	1.25
Storybook 4	216	22	20.35	6.38	2.53	1.11
Concept Probe 1	242	20	15.67	13.29	3.65	1.66
Concept Probe 2	226	20	17.92	4.62	2.15	1.22

The storybook mean scores are high in terms of possible maximum scores, and this is as the authors wished. The conduct of the Program was planned to encourage and motivate children to score as highly as possible. On the other hand, Concept Probe 1 scores showed adequate variability and room for improvement, and that also was intended.

Table XXX provides a summary of the results of analysis of variance for all variables on Storybooks 1-4. As can be seen:

1. age is significantly related to scores on all four storybooks;
2. population density is significantly related to scores on Storybooks 1 and 2, but not to those on 3 and 4;
3. the Teacher Fidelity Index is significantly related to scores on Storybooks 1, 2 and 4, but not to those on 3; and
4. the Parent Fidelity Index is significantly related to scores on Storybooks 1 and 4, but not to those on 2 and 3.

TABLE XXX

ANALYSIS OF VARIANCE FOR ALL VARIABLES ON STORYBOOKS 1-4

Variable	Storybook 1	Storybook 2	Storybook 3	Storybook 4
Age	F = 4.90 p < .01	F = 7.05 p < .001	F = 6.79 p < .01	F = 9.28 p < .001
Population Density	F = 8.60 p < .01	F = 4.48 p < .05	F = .90 NS	F = 2.24 NS
Teacher Fidelity Index	F = 7.81 p < .001	F = 7.62 p < .001	F = 2.28 NS	F = 8.35 p < .001
Parent Fidelity Index	F = 3.76 p < .05	F = 1.48 NS	F = 1.90 NS	F = 5.61 p < .01

Tables XXXI through LXI expand on the results shown in Table XXX.

TABLE XXXI

ANALYSIS OF VARIANCE FOR AGE GROUPS ON STORYBOOK 1

Source	DF	Mean Square	F
Age	2	21.69492	4.90*
Error	228	4.42969	--

*p < .01

TABLE XXXII

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 1 FOR ALL AGE GROUPS

Group	N	Mean	Standard Deviation
2, 3 years	50	19.96	2.09
4 years	140	20.39	2.32
5+ years	41	21.32	1.08

Storybook 1 contained 22 items. Table XXXI shows that age is significantly ($p < .01$) related to scores. Table XXXI reveals that the mean scores for all age groups are at least fairly close to the maximum score. However, it is clear that age is directly related to score: the older the age group of children, the higher the score.

Table XXXIII reveals a significant ($p < .01$) relationship between population density and scores on Storybook 1. As shown in Table XXXIV, suburban/rural children do better than urban children. This may be one of the storybooks which should be examined for adequate safe and unsafe play scenes familiar to urban children.

TABLE XXXIII

ANALYSIS OF VARIANCE FOR POPULATION DENSITY GROUPS ON STORYBOOK 1

Source	DF	Mean Square	F
Population Density	1	38.56792	8.60*
Error	235	4.48563	--

*$p < .01$

TABLE XXXIV

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 1
FOR POPULATION DENSITY GROUPS

Group	N	Mean	Standard Deviation
Urban	172	20.20	2.33
Suburban/ Rural	65	21.11	1.39

Table XXXV reveals that the Teacher Fidelity Index is significantly ($p < .001$) related to scores on Storybook 1. As shown in Table XXXVI, children exposed to medium and high group teachers score higher than those exposed to low group teachers. However, it is worth noting that the medium group yields higher scores than the high group.

As shown in Table XXXVII, the Parent Fidelity Index also relates significantly ($p < .05$) to scores to Storybook 1. In this case, however, there is a straight line increase in mean scores from low to medium to high; the closer the parents follow the prescribed regimen for conducting the Safe-Playing Program at home, the higher the score of the children.

TABLE XXXV

ANALYSIS OF VARIANCE FOR TEACHER FIDELITY INDICES
FOR STORYBOOK 1

Source	DF	Mean Square	F
Teacher Fidelity	2	29.47610	7.81*
Error	194	3.77185	--

*$p < .001$

TABLE XXXVI

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 1 FOR TEACHER FIDELITY GROUPS

Group	N	Mean	Standard Deviation
Low	72	19.92	2.51
Medium	73	21.19	1.48
High	52	20.54	1.58

TABLE XXXVII

ANALYSIS OF VARIANCE FOR PARENT FIDELITY INDICES FOR STORYBOOK 1

Source	DF	Mean Square	F
Parent Fidelity	2	15.42339	3.76*
Error	95	4.10161	--

*$p < .05$

TABLE XXXVIII

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 1 FOR PARENT FIDELITY GROUPS

Group	N	Mean	Standard Deviation
Low	31	19.74	2.45
Medium	36	19.92	2.02
High	31	21.03	1.49

Storybook 2 contained 20 items. Table XXXIX shows that age is significantly ($p < .001$) related to scores. Table XL reveals that the mean scores for all age groups are quite close to the maximum score. However, age clearly is directly related to score: the older the child, the higher the score.

TABLE XXXIX

ANALYSIS OF VARIANCE FOR AGE GROUPS ON STORYBOOK 2

Source	DF	Mean Square	F
Age	2	33.20657	7.05*
Error	224	4.70977	--

*$p < .001$

TABLE XL

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 2 FOR ALL AGE GROUPS

Group	N	Mean	Standard Deviation
2, 3 years	51	17.57	2.46
4 years	139	18.50	2.24
5+ years	37	19.30	1.27

Table XLI reveals a significant ($p < .05$) relationship between population density scores on Storybook 2. As shown in Table XLII, suburban/rural children score higher than urban. Perhaps this storybook also should be looked at to see if it contains sufficient play scenes familiar to urban children.

TABLE XLI

ANALYSIS OF VARIANCE FOR POPULATION DENSITY GROUPS ON STORYBOOK 2

Source	DF	Mean Square	F
Population Density	1	21.78151	4.48*
Error	231	4.86277	--

*$p < .05$

TABLE XLII

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 2 FOR POPULATION DENSITY GROUPS

Group	N	Mean	Standard Deviation
Urban	166	18.23	2.38
Suburban/ Rural	67	18.91	1.69

Table XLIII reveals that the Teacher Fidelity Index is significantly ($p < .001$) related to scores on Storybook 2. As shown in Table XLIV, children exposed to medium and high group teachers score higher than those exposed to teachers in the low group. However, once again the medium group produces higher scoring children than the high group (and there is no apparent explanation).

As shown in Table XLV, the Parent Fidelity Index does not significantly relate to scores on Storybook 2. As revealed in Table XLVI, the small Ns and small mean differences of scores between groups are probably the reason.

TABLE XLIII

ANALYSIS OF VARIANCE FOR TEACHER FIDELITY INDICES FOR STORYBOOK 2

Source	DF	Mean Square	F
Teacher Fidelity	2	28.82958	7.62*
Error	190	3.78150	--

*$p < .001$

TABLE XLIV

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 2 FOR TEACHER FIDELITY GROUPS

Group	N	Mean	Standard Deviation
Low	66	17.80	2.46
Medium	71	19.08	1.62
High	56	18.66	1.60

TABLE XLV

ANALYSIS OF VARIANCE FOR PARENT FIDELITY INDICES FOR STORYBOOK 2

Source	DF	Mean Square	F
Parent Fidelity	2	5.83135	1.48*
Error	99	3.94805	--

*Not significant

TABLE XLVI

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 2 FOR PARENT FIDELITY GROUPS

Group	N	Mean	Standard Deviation
Low	32	18.31	2.10
Medium	38	18.42	2.06
High	32	19.09	1.77

Storybook 3 contained 26 items. Table XLVII shows that age is significantly ($p < .01$) related to scores. Table XLVIII reveals a direct relationship between age and score: the older the child, the higher the score.

TABLE XLVII

ANALYSIS OF VARIANCE FOR AGE GROUPS ON STORYBOOK 3

Source	DF	Mean Square	F
Age	2	42.98956	6.79*
Error	221	6.33039	--

*$p < .01$

TABLE XLVIII

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 3 FOR ALL AGE GROUPS

Group	N	Mean	Standard Deviation
2, 3 years	49	22.98	2.99
4 years	138	24.12	2.59
5+ years	37	24.95	1.15

As shown in Tables XLIX through LIV, there are no significant relationships between scores on Storybook 3 and the remaining three variables: Population Density, Teacher Fidelity Index, Parent Fidelity Index.

TABLE XLIX

ANALYSIS OF VARIANCE FOR POPULATION DENSITY GROUPS ON STORYBOOK 3

Source	DF	Mean Square	F
Population Density	1	6.29314	0.90*
Error	228	6.99841	--

*Not significant

TABLE L

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 3 FOR POPULATION DENSITY GROUPS

Group	N	Mean	Standard Deviation
Urban	165	23.88	2.73
Suburban/ Rural	65	24.25	2.41

TABLE LI

ANALYSIS OF VARIANCE FOR TEACHER FIDELITY INDICES FOR STORYBOOK 3

Source	DF	Mean Square	F
Teacher Fidelity	2	13.19427	2.28*
Error	187	5.78301	--

*Not significant

TABLE LII

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 3
FOR TEACHER FIDELITY GROUPS

Group	N	Mean	Standard Deviation
Low	65	23.63	2.45
Medium	71	24.49	2.68
High	54	23.91	1.91

TABLE LIII

ANALYSIS OF VARIANCE FOR PARENT FIDELITY INDICES
FOR STORYBOOK 3

Source	DF	Mean Square	F
Parent Fidelity	2	9.62776	1.90*
Error	98	5.06680	--

*Not significant

TABLE LIV

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 3
FOR PARENT FIDELITY GROUPS

Group	N	Mean	Standard Deviation
Low	32	23.56	2.38
Medium	37	23.62	2.37
High	32	24.53	1.95

Storybook 4 contained 22 items. Table LV shows that age is significantly ($p < .001$) related to scores. Table LVI reveals that the mean scores for all age groups are at least fairly close to the maximum score. However, it is clear that age and score are directly related: the older the child, the higher the score.

TABLE LV

ANALYSIS OF VARIANCE FOR AGE GROUPS ON STORYBOOK 4

Source	DF	Mean Square	F
Age	2	57.10635	9.28*
Error	198	6.15074	--

*$p < .001$

TABLE LVI

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 4 FOR ALL AGE GROUPS

Group	N	Mean	Standard Deviation
2, 3 years	40	18.93	3.43
4 years	125	20.37	2.39
5+ years	36	21.33	1.17

As shown in Table LVII, there is no significant relationship between population density and scores on Storybook 4; the mean scores (Table LVIII) are very close for urban and suburban/rural groups of children.

TABLE LVII

ANALYSIS OF VARIANCE FOR POPULATION DENSITY GROUPS ON STORYBOOK 4

Source	DF	Mean Square	F
Population Density	1	14.22222	2.24*
Error	214	6.34129	--

*Not significant

TABLE LVIII

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 4 FOR POPULATION DENSITY GROUPS

Group	N	Mean	Standard Deviation
Urban	162	20.20	2.50
Suburban/ Rural	54	20.80	2.57

Table LIX reveals that the Teacher Fidelity Index is significantly ($p < .001$) related to scores on Storybook 4. As shown in Table LX, children exposed to medium and high group teachers score higher than those exposed to low group teachers. Once again, however, there is no straight line progression from low to medium to high group teachers in terms of increased scores by children. In this case, the medium group yielded slightly higher mean scores (21.01 vs. 20.98) than the high group.

TABLE LIX

ANALYSIS OF VARIANCE FOR TEACHER FIDELITY INDICES FOR STORYBOOK 4

Source	DF	Mean Square	F
Teacher Fidelity	2	39.62984	8.35*
Error	173	4.74403	--

*p < .001

TABLE LX

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 4 FOR TEACHER FIDELITY GROUPS

Group	N	Mean	Standard Deviation
Low	61	19.59	2.42
Medium	70	21.01	2.29
High	45	20.98	1.56

As shown in Table LXI, The Parent Fidelity Index also relates significantly ($p < .01$) to scores on Storybook 4. Table LXII reveals a straight line increase in scores from low to medium to high: the closer the parents follow the prescribed regimen for conducting the Safe-Playing Program at home, the higher the scores of the children.

TABLE LXI

ANALYSIS OF VARIANCE FOR PARENT FIDELITY INDICES FOR STORYBOOK 4

Source	DF	Mean Square	F
Parent Fidelity	2	26.72380	5.61*
Error	92	4.76275	--

*p < .01

TABLE LXII

MEANS AND STANDARD DEVIATIONS ON STORYBOOK 4 FOR PARENT FIDELITY GROUPS

Group	N	Mean	Standard Deviation
Low	28	19.57	2.89
Medium	36	20.31	2.24
High	31	21.45	1.12

Summary Statement

As measured by difference scores on Concept Probes 1 and 2 children who experienced the Safe-Playing Program significantly ($p < .0005$) increased (from their own base) their ability to identify safe-playing concepts.

In general, children under five years of age improved in terms of difference scores on Concept Probes 1 and 2 to a greater extent than

children five and over. It should be said that Concept Probe 1 scores are higher for the five-year (plus) children, and thus there is less room for improvement that can be measured by the Probes. However, all considered, the Program sees ideally targeted for 3 and 4-year old preschoolers. The relatively lower storybook scores for younger children, and thus the greater opportunity for growth, also support this targeting.

Generally (but not consistently or to a greater extent) suburban/rural children scored higher than urban children on Concept Probes and Storybooks. While this could be due to reading and/or comprehension levels, or to a variety of other factors, it would be wise to examine the Probes and Storybooks to see if they contain an adequate representation of safe-playing scenes familiar to urban children, to avoid a scoring bias against them.

Results relating to Teacher and Parent Fidelity Indices were inconsistent and difficult to interpret both for Concept Probes and Storybooks. Frankly, the authors expected a much more substantial positive relationship between these variables and difference scores on Concept Probes 1 and 2. One confounding factor was that all children seemed to do quite well regardless of whether their teachers and parents were in low, medium or high fidelity groups. This result could be due to deficiencies in the make-up of the indices--they may not comprise the elements most important for difference scores on the probes or for mastering storybooks. Further, some parents and teachers may be adapting prescribed regimens for the conduct of the Program or employing their own substitute ideas in ways that help the children to identify and understand safe-playing concepts, but which may not be reflected in the

indices. Finally, the Program may hang together so well that strict teacher adherence to presentation requirements may not be as important as we thought it would be. For now, the Teacher and Parent Fidelity Indices should be left as they are, for there is no clear mandate or direction for changing them.

Instructions for Concept Probes

This book will help you teach children what "safe" play around traffic is, and it helps you see how well the children are learning that safe concept. The introductory words help the child focus on the task, and the prospect of the sticker makes it seem fun. The first three pages help the child get into the pattern of touching pictures according to your instructions. The captions on the pages are very specific and help the child complete the task successfully.

First, read the introductory words, allowing a child to pick a sticker to earn. After the introductory pictures, 20 pages of pictures follow. On each page there are two pictures: one of safe play around traffic and one of dangerous play around traffic. You, the teacher, ask the child to "touch the picture of the child(ren) playing safely."

If the child points to the picture of safe play, praise the child for his/her correct answer, thus reinforcing and building the child's ability as he/she moves through the book. Praise words are written in italics on many pages throughout the book to help you remember to do this.

If the child points to the wrong picture, say "No. That is a picture of dangerous play. This (as you point to it) is a picture of safe play." Then, repeat again, "Point to the picture of the child(ren) playing safely" and continue to ask the question and correct the child until the child gives the correct response. Be sure to praise the child for the correct response when he/she gives it!

Some pictures are teaching pictures in that they show potential danger (a child chasing a ball down a driveway, about to enter the street) as the dangerous play depicted on the pictures on a page. These pictures

teach children to stay out of the street and that play close to the street is dangerous.

Many pictures show more than one child at play. Some of these pictures are a little tricky in that one child in the group may be doing something that children will say is safe or dangerous. Children will have to look at both pictures on the page carefully to judge which is safe each time; sometimes it may be a "safer" picture of the two. For example, one picture shows two girls roller skating--one in the street near the curb, one on the sidewalk. The girl on the sidewalk is safe, but the whole picture is dangerous play; the other picture on the page shows safe play. As the teacher, be sure to look carefully through the book to be prepared for "teaching" pictures of this sort.

Many preschoolers, especially 3-year olds, do not yet know what safe and dangerous mean. This is your opportunity to use these pictures to teach "safe" play around traffic.

Be sure to record each child's correct responses on his/her individual progress charts, which let you keep track of their learning. Also, check off children's completion of Concept Probe 1, etc., on the Progress Poster.

* * * * * * * * * * *

Problem 1

If children seem to be pointing without really looking at the pictures, STOP, and say, "_(child's name)_, look at each picture before you touch the picture." You may even need to hold their hand back a little to make sure they look at the picture first.

Problem 2

If a child won't touch a picture at all, there may be two reasons for this: (1) The child may be sick and, therefore, uncooperative; or (2) the child may be flatly uncooperative. If you think the child is sick, put off the Safety-Concept Probes to another day. If the child is just being uncooperative and you wish to teach the child to be cooperative, steel yourself. We've found a good tactic.

First, praise the child liberally for every related action--(e.g., "Great, you're sitting nicely"; "Fantastic, you're really looking at the pictures"). Then, ask the child to touch his or her ear (or whatever), praising that action; ask the child to touch your ear, praising that. Now, ask the child to touch the ear of one of the children in the book, again praising. Finally ask the child to touch the picture of the child playing safely. If the child won't cooperate, close the book and say: "When you're ready to work, I'll talk to you." Then turn away for 10 seconds. Turn back and start over. If the child still won't cooperate after three cycles of this, stop and try another day. Give lots of positives the next time for every related action. Invite the child to carry the book, etc.

Individual Progress Card

CHILD'S NAME _____ AGE _____ TEACHER _____

SCHOOL _____ DATE(month, year) _____ _____

Mark every correct answer

Concept Probe 1	Storybook 1	Storybook 2	Storybook 3	Storybook 4	Concept Probe 2
1. B	1.	1.	1.	1.	1. A
2. A	2.	2.	2.	2.	2. A
3. B	3.	3.	3.	3.	3. B
4. B	4.	4.	4.	4.	4. B
5. A	5.	5.	5.	5.	5. B
6. A	6.	6.	6.	6.	6. A
7. B	7.	7.	7.	7.	7. B
8. A	8.	8.	8.	8.	8. A
9. A	9.	9.	9.	9.	9. B
10. B	10.	10.	10.	10.	10. B
11. A	11.	11.	11.	11.	11. B
12. A	12.	12.	12.	12.	12. A
13. B	13.	13.	13.	13.	13. B
14. B	14.	14.	14.	14.	14. A
15. A	15.	15.	15.	15.	15. A
16. B	16.	16.	16.	16.	16. B
17. A	17. skip	17.	17.	17.	17. B
18. B	18.	18.	18.	18.	18. A
19. B	19.	19.	19.	19.	19. A
20. A	20.	20.	20.	20.	20. A
	21.		21.	21.	
	22.		22.	22.	
	23.		23.		
	24.		24.		
			25.		
			26.		

SUMMARY

	Number of correct answers / Number of questions		% correct answers
1. Concept Probe 1	_____	=	_____ %
2. Storybook 1	_____	=	_____ %
3. Storybook 2	_____	=	_____ %
4. Storybook 3	_____	=	_____ %
5. Storybook 4	_____	=	_____ %
6. Concept Probe 2	_____	=	_____ %

Friend's name (boy) _____ *Friend's name (girl)* _____

Information needed for books